On the relief of pain in labour, with Special reference to the use of Relaxation, Pethidine Hydrochloride and Trichlorethylene

- - - -

Carmichael Mackie.

INTRODUCTION

In the Autumn of 1947, the Writer of this thesis, in search of a suitable subject for study, prepared, with the aid of Individual case-papers, Midwives Registers and Report Books, a detailed Annual Report of the work done during the year 1946 at the Lucy Baldwin Maternity Hospital, Stourport-on-Severn, Worcestershire, the Writer having been on the Medical Staff of this hospital since 1932. This report is included in the Appendix at pages 40 - 65.

This hospital has no resident medical officer.

Consideration of the 1946 report, and, bearing in mind the increasing use of Pethidine hydrochloride in current obstetrical practice, it was decided to study the action of this drug, already in somewhat tentative use at this hospital since 1944, as it became more fully used during the year 1948. As a control, the hospital results over the ten years period 1938 - 47 were prepared in a similar manner to the 1946 report, this being considered the only practicable control series obtainable.

At the same time, during the trial year of 1948 it was decided to intensify the instruction of patients in "Relaxation" already in use at this hospital for some years, and to study the action of Trichlorethylene as an analgesic for self-administration in later labour. Supervision of Trichlorethylene administration limited the number of cases to 100 in hospital and 15 in private domiciliary practice.

- - -

HISTORICAL ASPECTS OF THE RELIEF OF PAIN IN LABOUR

The tradition of suffering hovers over Midwifery from earliest recorded times. In 1662, in the century before William Smellie and the Treatise on Midwifery (1752), the bishops of the Church of England during the reign of Charles the Second, considered, that in the Service of Thanksgiving of Women after childbirth, the reading of Psalm 116 -

> "The snares of death compassed me round about, and the pains of hell gat hold upon me "

was an apt expression of how women at that time must suffer in labour. To-day the majority of mothers in this part of England attend this service of "Churching" on their first outing after delivery. This is one of many small ways in which the tradition of suffering is maintained.

Spencer (1927) records that, early in the eighteenth century, the Master of British Midwifery, William Smellie, during his early years in country practice in Lanark, carried Laudanum in his saddlebag for the relief of his patients in labour. In 1799 Sir Humphry Davy discovered the exhilarating effect of Nitrous Oxide when inhaled, but, although ether and chloroform were soon also known it was November 1842 before Long, a country doctor in Georgia, U.S.A., first used ether as a surgical anaesthetic. In 1844 Wells in Connecticut first used Nitrous Oxide for dental extractions and in 1846 Morton administered ether to a man for the removal of a tumour of the neck in the Massachusets General Hospital. News of the disoovery of anaesthesia reached Europe, and in Britain the first operation with ether anaesthesia was performed on December 21st, 1846 (Guthrie, 1945).

Meantime, in 1847, the Professor of Midwifery in Edinburgh, James Young Simpson, dissatisfied with the choking effect of ether in his Midwifery practice, transferred his attention, on the advice of the chemist Waldie of Liverpool, to Chloroform. On the night of November 4th, 1847, he made the discovery, epoch-making in the history of medicine, of the strong anaesthetic properties of chloroform. According to Miller (1947), no time was lost in putting the new anaesthetic to use, on the 9th of November the first child born of a mother who received chloroform was delivered. Simpson, the next day, communicated his "Account of a new Anaesthetic Agent" to the Edinburgh Medico-Chirurgical Society, and, for the next fifty years, and on occasion, even to this day, Chloroform has been the anaesthetic of choice.

In 1884 Koller of Vienna, a young surgeon interested in opthalmology noting the numbness of his tongue resulting from the chewing of coca-leaves and realising the significance of this, became thereby the originator of local anaesthesia. Halstead in America did valuable pioneer work in local and regional anaesthesia elaborating Koller's original methods. Bier in 1898 introduced the principles of intra-thecal anaesthesia (Drummond 1947).

Steinbrückel at Freiburg in 1902, then Krönig and later Gauss elaborated Dämmerschlaf,-scopolamine and morphine narcosis, Gauss later was one of the first to use a barbiturate in place of morphine. He recommended the intravenous use of Pernocton (Butyl-B-Bromallyl-- Barbituric Acid) in his method of "Twilight Sleep" (Claye 1939).

To-day, in some continental countries, e.g., Sweden and Holland, with a low maternal mortality rate, a widespread demand for analgesics and anaesthetics in labour is still neither made by patients or encouraged by their obstetricians, as it is felt that their use tends to delay labour and increase the incidence of operative delivery. On the other hand, in some districts of the U.S. A., public opinion urges more and more the relief of pain in labour. In this country, according to Sturrock (1939) the position appears to be midway between these two extremes. But the report of the "Working Party" (January 1949), appointed by His Majesty's Government for the purpose of enquiry into the shortage of midwives, which urges -

> "The use of the resources of the Medical Research Council, as they were applied to the problems of war, for finding quickly a solution to the neglected problem of relieving pain in childbirth ",

and the wide publicity given in the national newspapers to this subject (The Times, 28.1.1949), threatens this country's hitherto cautious approach to this subject.

Methods of securing Relief of Pain in labour in use to-day are many and varied and not one method can be said to be entirely satisfactory.

Of the Analgesic Drugs used in the first stage of labour Pethidine hydrochloride will be considered in detail later in this thesis. Morphine is still, on occasion, invaluable. It is preferable to withhold analgesic drugs from women who are to give birth to premature babies because these infants do not tolerate such drugs. This is particularly true with morphine.

The risk of foetal narcosis is always present with morphine but is generally considered not a serious one if delivery occurs within 30 minutes OR AFTER 6 hours of its administration. With the advent of safer modern drugs the use of morphine needs considerable justification. Morphine-Scopolamine narcosis produces restlessness in many women calling for increased nursing attention, asepsis is difficult to maintain and the incidence of operative delivery is distinctly increased. Magnesium Sulphate has been used to enhance the action of morphine. In 1944, 197 primigravidae were delivered at the Lucy Baldwin Hospital and nine received morphine in labour. In 1947 of 196 primigravidae delivered six received morphine, and in 1948 of 216 primigravidae delivered two received morphine.

Scopolamine (Hyoscine Hydrobromide) alone is helpful in the occasional selected case for its amnesic effect. It has been advocated by many as the ideal combination with Pethidine. Restlessness is common under the influence of this drug, a few show sensitivity and a rare complication (Steinberg 1945), is oedema of the uvula and glottis. We seriously question the frequent use of scopolamine in labour believing that most mothers do not desire the birth of their child to be a 'black-out' in their memory.

Chloral Hydrate has been a safe and valuable sedative in our experience, with or without Potassium Bromide. Given in adequate dosage e.g. grains 30, it usefully secures sleep or rest in selected cases and has a slight analgesic effect. We have used this drug with effect as an adjuvant to Nitrous Oxide and Air in the late first stage of labour.

The derivatives of Barbituric Acid have until recently enjoyed great popularity in obstetrics on account chiefly of their sedative and amnesic effects. Certain serious disadvantages have been met with in their use, respiratory depression, idiosyncrasy in high proportion and cumulative effects. The margin of safety in many of the preparations is small and routine use is decidedly unsafe. For these reasons Pentobarbitalum Solubile (Nembutal) in normal labour has lost much of its earlier popularity. Phenobarbitonum solubile, however, still proves to be a most useful sedative in Eclampsia. Many of the light group of barbiturates have been used to produce analgesia or to supplement the efficacy of Nitrous Oxide and Air but Pethidine and Trichlorethylene tend to replace the barbiturates now in this respect. We have used Sodium propylmethylcarbinylallylbarbiturate (Seconal) in doses of grains $1\frac{1}{2}$ - 3 with success, as a sedative in early labour, and as an adjuvant to Nitrous Oxide and Air in later labour, and still use it on occasion, in combination with Pethidine to ensure sleep.

Rectal Sedation with Tribromethanol, Paraldehyde and Ether have been employed by specialist clinics with good results notably Gwathmey and McCormick (1935) and Lull and Hingson (1945) ; and Dewar and Morris (1947) have reported a series of consecutive cases of Eclampsia treated with success with Rectal Tribromethanal. Rectal Paraldehyde proved ineffective in 48% of 738 deliveries in the trial conducted by the College of Obstetricians and Gynaecologists in 1934.

/For success

For success in Rectal Sedation, close medical supervision and attention to detail is essential, and routine employment is otherwise impracticable.

Intravenous Anaesthesia and Analgesia.

Intravenous Procaine is under trial in some specialist clinics. The intravenous use of Pentothal Sodium, the extremely short-acting barbiturate has proved unsatisfactory and impracticable in normal labour although it is used, and thought highly of, by some as an induction anaesthetic in Caesarean Section.

Inhalational Anaesthetics

The more commonly employed Anaesthetic Agents used in later labour are Trichlorethylene (considered in detail later in this thesis as an analgesic), Nitrous Oxide, Chloroform, Ethyl Ether, Cyclopropane, Divinyl Ether and Ethylene.

Chloroform in spite of its toxic effects on liver and heart and its effect on the force of uterine contractions, is still a popular analgesic and anaesthetic agent and is used by many in this country to-day in domiciliary onstetric practice, now, however, sparingly and as an adjuvant to Nitrous Oxide and Air or Trichlorethylene analgesia. Its portability and ease of administration are outstanding. In hospital however, with Nitrous oxide and oxygen or Cyclopropane at hand, the use of chloroform now abandoned by most, is becoming more difficult to justify.

Nitrous Oxide and Oxygen in trained hands can be almost ideal as an analgesic and then light anaesthetic in late labour, but it does slow labour more than Trichlorethylene and susceptible patients can find the alternate loss and recovery of consciousness in the earlier stages of administration very trying. Co-operation of the mother is at times difficult to secure with any method involving the use of Nitrous Oxide. Anoxia in the administration of Nitrous Oxide is an occasional risk to mother and child according to Barach and Rovenstine (1945).

Nitrous Oxide and Air by apparatus of the type described by Minnitt (1934) for self-administration has been a safe and most valuable contribution to Obstetric Analgesia especially as it can be used by Midwives alone, trained in its use. Elam (1938) reported a high percentage of successes by this method and insists that success depends on attention to detail. The analgesic gas delivered by the Minnitt machine consists of 45% Nitrous Oxide and 55% of Air (i.e., about 11% of Oxygen). It is of interest historically to record that a lay body administering the National Birthday Trust Fund, with the not inconsiderable encouragement of the Countess Baldwin approached the then British College of Obstetricians and Gynaecologists in 1933 and offered to finance an enquiry into the forms of analgesia which might safely be used by a midwife in the absence of a qualified medical practitioner. The outcome of this as published in the Report of the College, January 1936 showed that of 3,238 mothers to whom Nitrous Oxide and air was administered 77% were satisfied with

/ the analgesia

the analgesia received, 5.3% were doubtful and 17.7% were dissatisfied. There were 3 deaths in the series none in any way attributable to the analgesia, the natural forces were interfered with in 8.4%. In England and Wales since May 1936, (but in Scotland only since 1946), Midwives have been entitled to administer Nitous Oxide and Air on their own responsibility under certain conditions. But in 1946 as yet only 1 in 5 practising midwives were qualified to administer analgesia. In 1946 training in the use of Nitrous Oxide and Air analgesia was made part of the normal training of midwives before registration, and training of already qualified midwives has since then been considerably accelerated.

Recent attempts by Moir and Elam to introduce a different principle in the administration of this analgesic illustrates the relative dissatisfaction with the Minnitt type of apparatus. In Moir's apparatus the patient breathes a limited volume of pure Nitrous Oxide contained in a reservoir. Once this reservoir is emptied, i.e., after two or three breaths the mother breathes only air, because the reservoir takes $2\frac{1}{2}$ minutes to refill. More recently the principles of the Moir and Minnett machines have been combined in one apparatus which is still under trial.

The Minnitt and Queen Charlotte machines have been in regular use at the Lucy Baldwin Hospital since 1936. It is considered that, even using synergistic methods with chloral hydrate, 'seconal' and now pethidine, an optimum analgesia is not obtained with these machines although the relief provided, aided by a certain psychological effect, is sufficiently great enough to be worth while. One disadvantage of the Nitrous oxide-air method in our experience has been that co-operation of the mother bearing down during her pain is at times interfered with in the mother's efforts to use the face-piece effectively, and, at times, the method has had to be abandoned during pains for that reason. The analgeic effect of Nitrous Oxide is so transient that use of the face piece between contractions only has resulted in the mother suffering the unmitigated severity, of the acme of the contraction. In this important respect we consider that Nitrous Oxide and Air compares unfavourably with the longer acting Trichlorethylene analgesia, which can be used with effect between pains only, if required.

Ethyl Ether is irritating to inhale and is not analgesic in small doses like chloroform, and although safer requires to be given to anaesthetic levels to be effective. Vomiting as an after effect is a troublesome feature. Inflammability is a drawback in the patient's home. Mixtures of chloroform and ether are preferred by some general practitioner obstetricians.

Divinyl Ether has an induction stage of one to three minutes. It causes less vomiting than ether and emergence to consciousness is rapid, after its use. Its disadvantages are the possibility of hepatic damage and difficulty in maintaining any depth of anaesthesia.

It can be useful at crowning of the head in labour or for an episiotomy and subsequent repair. But a closed circuit apparatus with oxygen is required for maximum efficiency of administration (Bourne 1934). We have experimented with "Vinesthene Anaesthetic Mixture", consisting of Divinyl Ether 25% and Ethyl Ether 75%, for use at the stage of crowning of the foetal head in delivery, but find this mixture more irritating and pungent to the mother than chloroform.

Cyclopropane administered with a high percentage of oxygen is considered almost ideal for the child. A nitrous oxide and oxygen mixture given during the second stage of labour, with cyclopropane added as delivery occurs, is an excellent method in normal labour. Cyclopropane produces adequate anaesthesia for all onstetric procedures as its flexibility permits analgesia and provides anaesthesia of any required degree of relaxation. But a complicated apparatus is required for administration, and a trained anaesthetist is a prerequisite.

Spinal Anaesthesia has been used extensively for Caesarean Section. De Lee and Greenhill (1945) state 'Spinal anaesthesia is the most dangerous anaesthetic for pregnant women'. Used in single or continuous dosage it has, however, many advocates in Caesarean Section (Thomas 1949).

Caudal Analgesia. This method either by single dose or by continuous administration has been extensively used in America and to a limited extent in this country where views are conflicting as to its efficiency and desirability. Hingson and Edwards (1943) introduced this method in 1941. The technique requires considerable experience and supervision and it is at present a procedure for hospital only.

Pudendal Nerve Block and Perineal Infiltration

These methods of local anaesthesia have a wide range of usefulness in Obstetrics. It is considered that in delivery of the premature infant, and the primigravid breech where it is most desirable that the mother's expulsive powers be used unimpaired, these methods are the safest and best. Occasional indications for the use of these methods are low forceps without an anaesthetist; or in patients with heart or pulmonary disease, diabetes or eclampsia. Using the full method anaesthesia extends up the entire vagina but the cervix and lower segment remain unaffected, consequently, any manipulation with hand or instrument in the lower segment will cause pain. Light inhalational analgesia considerably augments relief of pain by this method in for example the bringing down of extended arms in breech extraction. Valuable original work in this field has been carried out by Theobald (1936). Techniques have also been fully described by Greig(1945) and Mackey (1947).

Considerable differences of opinion exist among physiologists and obstetricians on the origin, causes and pathways of pain arising during labour. Until we know more of the mechanism of the production of pain in labour, or indeed, of pain in any of its forms, any attempts at relief must, of necessity, be empirical.

Moir (1939) reviewed the knowledge to date of the nature of pain in labour and believes

> " that at least the major part of the pain in the later first stage of labour is not directly due to muscle contraction, but is caused by a stretching of the lower segment of the uterus and cervix, and cites women in labour as often describing the pain as a "bursting one" across the lower abdomen. When the cervix has fully dilated and the foetal head has descended low in the pelvis the pains alter in character and are either less severe, or at least better tolerated. The now present irresistible desire to bear down is the result presumably of a muscular reflex invoked by the distension of the vagina and pelvic floor. The final expulsion is painful because of the distension of muscles of the pelvic floor and the skin of the vulva and perineum. This is the time when the woman is most in need of analgesia both local and general ".

Opinions vary greatly as to the number of mothers desiring analgesia or anaesthesia in labour. G. Dick Read (1946) states "The large majority of working class women do not want anaesthetics for normal labours". In the survey conducted by the Joint Committee of the Royal College of Obstetricians and Gynaecologists and the Population Investigation Committee (Maternity in Great Britain 1948), it is stated that 16% of mothers, not given any pain relief, complained that no attempt had been made to relieve their labour pains, further it is stated in the report that 6% of mothers offered analgesia refused it. At the present time there are wide variations in different districts and towns in this country in the number of mothers receiving relief of pain in labour from midwives. In Croydon 51% of mothers receive analgesia, in Monmouthshire 13%.

++++++++++++++++++

The investigations reported in this thesis have been carried out in and around Stourport-on-Severn, a small industrial town of some 9,000 inhabitants, in Worcestershire. The town is immediately surrounded by well farmed, fruit growing, moderately hilly country-side and is $4\frac{1}{2}$ miles south of Kidderminster (Population 35,000) where there is a general hospital but until the Autumn of 1948 very little accommodation for institutional midwifery. Stourport is 21 miles south-west of Birmingham and 12 miles north of Worcester.

The Lucy Baldwin Maternity Hospital in Stourport was opened in 1929 with 10 beds and has been twice enlarged, now having since July 1948 21 beds. Formerly administered by the County Council, the hospital was taken over on July 5th, 1948 by the Regional Hospital Board, Birmingham. The Professor of Midwifery of the University of Birmingham was consulting obstetrician to the hospital from its inception until 1946, and the hospital owes much to the help and interest of the late Professor Sir Beckwith Whitehouse and his successor Professor Hilda Lloyd. There is no resident medical officer. The County Medical Officer of Health acts in an administrative capacity as Medical Superintendent. The work of the hospital is carried out by a partnership of 3 general medical practitioners, the senior practitioner being also a County Consultant in obstetrics, the writer of this thesis being the second partner in this medical practice. An antenatal clinic is held at the hospital weekly and cases are received from all parts of North Worcestershire including the industrial towns of Kidderminster and Bromsgrove. Cases have been severely restricted during the past 2 years to primigravidae, cases of anticipated difficulty and cases where home conditions are unsatisfactory. No case of disproportion is referred elsewhere for delivery, Caesarean Section being performed when necessary at the hospital by consulting obstetric surgeons summoned from Birmingham.

The hospital statistics for the years 1938 - 48 are summarised OPPOSITE ~~on~~ page 28. ~~of the appendix.~~

Summarised reports of cases from 1944 - 48 are presented on pages 1 to 77 of the appendix.

- - - - - -

THE "PILOT SURVEY"

An investigation was undertaken by the writer of this thesis during 1948, in this district where the District Midwives are not provided with Nitrous Oxide Air Apparatus, in order to assess approximately the present demand, if any, and need in the observer's opinion, for pain relief in labour in the district.

Fifty mothers, unselected consecutive deliveries, were personally visited on the day of delivery. The mothers were all patients of the medical partnership already referred to and half were known personally to the observer for periods of up to sixteen years. Leading questions were avoided until near the end of the interview, the mother being encouraged at first to talk about her own experience.

Of the fifty mothers attended by District Midwives only, there were 9 primigravidae and 41 multigravidae. The mothers had no sedation, analgesia or anaesthesia with 4 exceptions. Three of the four exceptions obtained relief of pain by medical aid being sought by the midwife for delay in labour. The fourth case was the first district case to receive nitrous oxide and air analgesia from a new Minnitt apparatus delivered to the midwife that morning. Details of the 50 cases are set out on pages 78 to 87 of the appendix.

The fifty mothers had spontaneous deliveries and normal lying-in periods, although 2 cases of inertia were removed to hospital before delivery for closer supervision (cases 7 and 41 appendix pages 79 and 86).

Of the fifty infants born, one died. This was an easy multigravid breech delivery simply guided out by the midwife alone, $5\frac{1}{2}$ lbs., at term, with a marked hare-lip and cleft palate. The infant cried feebly at birth dying in 1 hour 30 minutes. No autopsy was performed (case 36).

There were 5 cases of Primary Uterine Inertia in 3 of which the midwife summoned medical aid (cases 7,13,19,25 & 41).

There were 4 cases of mild post partum haemorrhage (21-24 fluid ounces) of whom 3 had inertia and one had not (cases 19, 25, 41 & 43)

2 of the 9 Primigravidae delivered their infants without appreciable pain or suffering (Cases 3 and 6).

6 of the 41 Multigravidae delivered their infants without appreciable pain or suffering (Cases 10,27,28,31,33,40 and 43).

1 of the 9 Primigravidae caused her midwife to summon medical aid because of pains and no progress (case 7)

2 of the 41 Multigravidae caused their midwives to summon medical aid because of pains and no progress (cases 13 and 41)

The 50 cases have been studied and classified as follows:

	In Observer's Opinion	Primigravidae		Multigravidae	
A	Sedation or Analgesia Not required or Patient prefers not.	2	3 6	10	10 33 12 36 23 40 28 43 31 47
B	Requires offer of 2nd stage analgesia, gas-air or Trilene + local infiltration if episiotomy or stitch.	2	4 5	21	
C	Requires 1st Stage Mild sedation e.g. Pethidine + 2nd stage Analgesia. Occasionally anaesthesia at end. Local infiltration if required.	4	1 2 8 9	8	11 15 19 34 20 42 22 25
D	Requires careful supervised pain-relief	1	7	2	13 41
	TOTAL	9		41	

The figures in red refer to Case Records Appendix pages 78-87.

It is considered that in these fifty domiciliary confinements very satisfactory pain relief could have been achieved by very simple measures in all except three cases.

Nine multigravidae interviewed stated they prefer to have their labour without analgesia or anaesthesia. Various reasons were given, e.g.,

Fear for self and/or the baby

Fear of the unknown, of injections, of losing consciousness.

Intuition or even superstition.

"My husband wouldn't have been so nice to me after if I hadn't gone through something".

Then there are the few who prefer, enjoy and are proud of having their infants unaided.

Four of the five cases of Inertia were typical 'nervous' or excitable women, the fifth was an unmarried girl in labour with her second unwanted baby. That emotion and nervous tension can and often do profoundly disturb uterine action in labour was demonstrable in all five cases.

The 50 mothers belonged to the following occupational groups. (Husband's occupation except case 25 unmarried).

Professional and Salaried Workers	Blackcoated wage earners	Manual Workers	Agricultural Workers	Shop Assistants
1	3	36	7	3

No mother complained to the observer that her midwife was not provided with an analgesic apparatus.

This small survey indicates that in this district, among mothers belonging to the occupational groups mentioned and who choose the midwife to care for them in labour, there is no real DEMAND for pain relief that is not met in necessitous cases by the present method of midwife summoning medical aid in accordance with the regulations of the Central Midwives Board. The survey suggests that simple measures e.g., ante-natal instruction in Relaxation (heard of by only 8 mothers in the series, practised in labour by only 2), and the opportunity to use Nitrous-Oxide-Air or Trichlorethylene analgesia would satisfy a very large number of mothers at the present time.

The small number of mothers who really require more than this pain relief could have this supervised by doctors on the District Obstetric List.

+ + + + + + + +

The three components of the Basic Method of Pain Relief selected for study in this thesis - Relaxation, Pethidine hydrochloride and Trichlorethylene will now be studied separately.

RELAXATION

Jacobson (1930 - 1938) in a series of experiments on human subjects states that the subjective disturbance created by a strong unpleasant stimulus (e.g., an unsuspected electric shock to the fingers) is greatly diminished by 'Extreme Relaxation'. He describes in detail his method of teaching this muscular relaxation stating that 'suggestion' is eliminated in his experimental studies. He concludes that 'pain' and 'suffering' are sensory-motor reactions, commonly diminishing on relaxation, and that in 'irritable' or 'nervous' persons, as opposed to calm or phlegmatic types it seems probable that the underlying physiology is a heightened neuro-muscular tension - increased tonus of striated and smooth muscles, with corresponding increased impulses in the afferent and efferent nervous supply. He applied his method to the treatment of conditions such as 'spastic colon' and 'angina of effort' and considers the method has a field of usefulness in some organic as well as functional morbid states.

G. Dick Read (1933, 1946) has applied this method of muscle relaxation to child birth as a method of combating fear which he considers is in some way the chief pain-producing agent in otherwise normal labour. This is a practical method of inspiring confidence in the mother, which Read considers is the antidote to her fear. He advises the careful antenatal instruction of the mother in the processes of pregnancy and labour.

Few question the soundness of Read's ideas although he is perhaps prone to over-statement. We agree with the most important

/aspect of his

aspect of his thesis, namely, that emotion and nervous tension can, and often do, profoundly disturb and inhibit uterine action and it was decided to intensify ante-natal explanation of the process of labour, and to teach the mothers Read's method of skeletal muscle relaxation in the following simple manner.

Specimen copies of the book "Revelation of Childbirth" by Read published by Heinemann (1946) were placed in the waiting room of the ante-natal clinic and in the hospital. Patients were told about this book on first booking and encouraged to read it. Copies of Read's instructions on Relaxation and ante-natal exercises were freely circulated (appendix pages 103 - 105) and are now given to every mother to take home and study. The nursing and medical staff used every available opportunity to instruct in the method from the first ante-natal examination, throughout the pregnancy and labour. On abdominal palpation being performed the patient was asked to relax and ability to do so or not was commented upon, likewise at routine vaginal examination of primigravidae on the 36th week.

During the year 1948, 29 patients, out of a total of 381 deliveries were given Potassium Bromide and/or Chloral hydrate or 'seconal' to ensure some sleep or at least rest. In later labour pethidine hydrochloride was given to 226 out of 381 deliveries (60%). Two cases were given morphine sulphate in labour.

When Pethidine was given to the mother it was explained to her that it was to ease her discomfort and enable her to relax her muscles more fully. Similarly in later labour when nitrous-oxide and air or trichlorethylene were used the mother was encouraged to use the apparatus as an aid to relaxation.

This very simple "technique" could not have been carried out without the willing co-operation of the nursing staff. This co-operation was fully given. The primigravid mothers co-operated in earlier labour in about 90% of cases, but the multigravidae many of whom had had difficult previous deliveries were frequently non-cooperative.

It is considered that Relaxation practised as described above has been a morale-raising measure well worth the small trouble taken, particularly in the primigravid woman. It is considered that it has assisted the withholding of pethidine until genuine discomfort is becoming manifest and the patient is in active labour. It has been a method of value in preventing the mother from using her expulsive powers before the stage of full dilatation of the cervix has been reached and in this way it has been a factor in producing a second stage of apparently shorter duration as will be shown later in this thesis on considering the effects of Pethidine. During the year 1948, at the beginning of which relaxation was intensified, there was spontaneous delivery of every vertex case, the forceps being used once, electively, on the aftercoming head of a breech presentation.

PETHIDINE

Pethidine hydrochloride is the name given by the British Pharmacopoeia Commission to 1 - methyl - 4 phenyl - piperidine - 4 carboxylic acid ethyl ester hydrochloride. Pethidine is a colourless, odourless, crystalline, water soluble substance with a slightly bitter taste. In Germany, where it was originally discovered, Eisleb and Schaumann in 1939 where first to report its synthesis and to describe its pharmacological actions. The drug has a chemical relationship to atropine. Unlike morphine it is a relatively simple compound but there is some remote chemical similarity in that both possess a piperidine ring.

The pharmacology of Pethidine has been intensively studied. Eisleb and Schaumann (1939) described its atropine-like spasmolytic effect, that it was antagonistic to acetylcholine, tended to depress the action of smooth muscle and had a marked analgesic effect. Duguid and Heathcote (1940) found no haemolytic effect on erythrocytes and no effect on unicellular organisms. They noted depression of all types of muscle, a non-toxic fall in blood pressure, depression of the respiratory centre, and considered that pethidine acts as an analgesic by relieving spasm of smooth muscle and by raising the pain threshold. Gruber, Hart and Gruber (1941) showed the fall in blood pressure to be due to preliminary vaso-dilatation. They also found the action of Pethidine on excised smooth muscle to be unpredictable. Batterman (1943) stated that pethidine is more valuable for relieving pain of visceral origin that of peripheral origin. He noted a tendency to dizziness and faintness and doubted if the drug was safe for ambulatory patients. Battermann and Himmelsbach (1943) have tested the analgesic effect experimentally and considered the pain threshold raised to a maximum in one hour, and that the effect lasted up to six hours. The usual duration of analgesia was about 3 hours. Yonkman, Noth and Hecht (1944) considered pethidine safe, with a weak atropine-like action, and a strong papaverine-like effect on smooth muscle. The effect was more intense in the presence of spasm or stimulation. They found a slight tendency to addiction. Hewer and Keele (1948) tested the analgesic effect of pethidine by intravenous injection of student volunteers, in whom pain was experimentally produced, by the contraction of muscles rendered ischaemic by constriction. The most important side effect noted with pethidine was euphoria, and this lasted longer than the analgesic effect. They state that in doses of up to 75 mgm. other side-effects noted were light-headedness, giddiness, a feeling of remoteness, nystagmus with blurred and double vision and a sensation of difficulty in breathing. Individual variations in analgesic action were wide. Their findings, if verified, would appear to contra-indicate intravenous administration of the drug or even large dosage as possibly producing unpleasant and occasionally frightening effects in the mother.

Benthin (1940) published the first account of the use of pethidine in labour. In a series of 400 cases he used it alone in 250, and in combination with amidopyrine derivatives in 150. He considered the optimal dosage 100 mgm. In 1942, the same Author claimed that pethidine reduced the duration of labour in 30–40 years old primigravidae to 13¾ hours. Gilbert and Dixon (1943) combined pethidine with 'Seconal' in 62 cases in an attempt to obtain amnesia as well as analgesia but found large doses of 'seconal' up to 4½ grains, were required, and this produced moderate toxic effects on the mother, and foetal respiratory depression. Roby and Schumann (1943) combined pethidine with hyoscine in 112 cases and 14% of the babies required some form of resuscitation. Schumann (1944) gave a further report on 1,000 cases, claiming satisfactory amnesia in 70.5% and a shortening of labour by 2½ hours in primigravidae and 1½ hours in multigravidae. Intravenous administration was used in patients expected to deliver themselves quickly with no demonstrable ill-effect other than transient nausea. Gallen and Prescott (1944) record a series of 150 cases, 100 in detail. They combined pethidine with scopolamine or with a bromide-chloral-opium mixture when required. They consider labour apparently prolonged, the forceps rate of 10% was not significantly different from the control group of 13%. They found that pethidine acts in 15 minutes and the effect lasts 3–4 hours. Pethidine given intravenously caused vomiting, rise of blood pressure, dizziness, vertigo and dryness of the throat. 9 babies of the 100 studied in detail required resuscitation and the Authors doubt whether pethidine should be given within 2¾ hours of expected delivery. No tendency to post-partum haemorrhage was noted.

Cripps, Hall and Haultain (1944) also noted no tendency to post-partum haemorrhage in a report on 102 cases. They also recommended a dosage, of 100 mgm intra muscularly with the cervix dilated 3 to 4 fingers and the pains every 4–5 minutes and repeated the dose in 45–60 minutes when required. There were no cases of marked asphyxia due to pethidine. They found pethidine useful for premedication in Caesarean Section under local anaesthesia.

Carter (1945) has reported on the use of pethidine 100 mgm and scopolamine gagrins 1/150, given as a routine procedure in 2,700 obstetrical cases. After 2 or 3 hours the dose of pethidine alone or with scopolamine is repeated. Barnes (1947) after observation of 500 cases treated with pethidine between 1942 and 1946 considers that pethidine may have contributed to slight respiratory depression in a few babies. She considers that the claim that pethidine shortens labour cannot be substantiated. The forceps rate was 9.2% comparing favourably with a rate of 7.2% for a control series – the 500 cases containing a very high proportion of primigravidae (479). The post-partum haemorrhage rate, clearly defined as a loss exceeding 20 fluid ounces after the birth of the infant, was noted in only 16 of the 500 cases and she suggests that this low incidence indicates that pethidine does not in any way

/cause

cause an increased tendency to haemorrhage in the third stage. Barnes concludes that pethidine approaches the criteria, laid down by Sturrock (1939), for an ideal analgesic for use in labour more nearly than any other known substance.

- - - - -

CLINICAL USE OF PETHIDINE AT THE LUCY BALDWIN MATERNITY HOSPITAL

In 1944 Pethidine was used sparingly, and by mouth, in 37 cases, in doses of 25 - 100 mgm., very often with other sedatives.

In 1947, 85 cases were given pethidine by deep subcutaneous injection in doses of 50 - 350 mgm. other sedation still being frequently employed.

In 1948, 226 cases received pethidine by deep subcutaneous injection in doses of 50 - 500 mgm. and sedation with other drugs decreased strikingly.

That during 1948 a marked change over to pethidine occurred and that there was a marked decline in the use of other first stage sedatives is shown by the following table.

	1944	1947	1948
Patients receiving First stage sedation	105 (27%)	131 (38%)	239 (63%)
Patients receiving pethidine	37 (by mouth)	85	226
Patients receiving Morphine	9	6	2
Patients receiving other sedatives only	60	43	13

During the year 1948 there were 381 mothers delivered of whom 216 were primigravid and 165 multigravid, i.e., 56.7% primigravidae.

239 of the 381 mothers (63%) received first stage sedation, 73% of the primigravidae and 48.5% of the multigravidae.

226 of the 381 mothers received pethidine, 155 were primigravid and 71 multigravid.

60% of mothers delivered during the year received pethidine.
71% of the primigravid mothers and 43% of the multigravid.

2 patients received morphine during labour in addition to pethidine and other sedatives.

13 patients received other sedatives only. These sedatives were potassium bromide, chloral hydrate and seconal.

Of the 226 cases to whom pethidine was administered only 16 received other sedative drugs in the first stage. 2 of the 16 had morphine in addition to chloral hydrate and pethidine, the other 14 had seconal, potassum bromide or chloral hydrate. Many had nitrous-oxide-air or trichlorethylene analgesia in later labour.

It is considered therefore that the 226 cases present a useful series in which to examine the results of pethidine in labour, as 210 had no other first stage sedation.

The series of 226 mothers included 2 pairs of twins so that 226 mothers gave birth to 228 infants.

Pethidine was administered only to those patients who appeared in need of sedation or analgesia.

DOSAGE OF PETHIDINE WAS AS FOLLOWS:-

4	mothers	received	50 mgm
177	"	"	100 mgm
34	"	"	150 - 250 mgm
9	"	"	250 - 350 mgm
1	mother	"	400 mgm
1	"	"	500 mgm

A single injection of 100 mgm. was considered adequate in the majority of labours.

CLINICAL RESULTS WITH PETHIDINE

The method of delivery in the 226 cases is shown in the following table:

	Primigravidae	Multigravidae
Spontaneous, Occiput Anterior	146	66
Spontaneous Occiput Persistently Posterior	3	2
Breech	5	2
Twins	1	1
Forceps (Vertex Cases)	0	0

There was no maternal mortality. Slight transient toxic effects were noted: faintness, giddiness, numbness of the limbs and sweating and occasional vomiting.

EFFECTS OF PETHIDINE ON THE CHILD

Of the 228 infants born, 12 were lost. 3 were stillborn and 5 macerated. This gives a stillbirth rate of 8 - 3.5%.

There were 4 neo-natal deaths - 1.75%

Details of these cases are included in the Hospital Report for 1948 at pages 14 - 17 of the appendix.

Of the 3 stillbirths one (case 5) was a difficult breech extraction, the second (case 7) was a case of Vasa Praevia in a bi-partite placenta a moderate sized vessel being torn across on rupture of the membranes and although delivery was effected within 20 minutes of the haemorrhage the infant was stillborn. The third (case 8) was a foetal ascites not associated with Rhesus iso-immunisation (post-mortem refused).

Of the 5 macerated stillbirths, two (cases 1 and 2) were a pair of very premature twins associated with maternal toxaemia. A third (case 3) and fourth (case 6) died for no apparent reason in labour, the latter weighing 2lbs 12 ozs. The fifth (case 4) was associated with the Rhesus factor and the foetal heart was not heard on admission.

Macerated still-birth (case 3) occurred in an emergency admission, a primigravida aged 28 with a free head and suspected disproportion. (X-Ray A-P brim.10-3 cm) Ten days overdue, she had a temperature of 100.8°F on the first day of labour for which she was given penicillin. She had a tedious labour of 46 hours 45 minutes but a normal second stage and delivery. The foetal heart was last heard 8 hours before birth. The infant 7lbs 14ozs was beginning to macerate. The placenta was adherent and had to be manually removed. She had 3 doses of 100 mgm. Pethidine the last 15 hours before delivery and no other sedation. Post mortem of baby was refused.

It is unlikely that pethidine contributed in any way to this the only remotely possible stillbirth due to pethidine.

Of the 4 neo-natal deaths, one (case 2) was due to subdural haemorrhage, the second (case 4) to spina bifida, the third (case 7) a premature 3 lbs. 8 ozs. infant had Willett's forceps applied, the mother a toxaemia with ante-partum haemorrhage. The fourth neo-natal death (case 5) was the 7lb 6oz. child of an emergency admission, a primigravida, aged 24, who had received no ante-natal care, who looked toxic and had marked odema of the legs. She was widly hysterical throughout the first stage of labour. She received:-

100 mgm. Pethidine after $7\frac{3}{4}$ hours of labour - no effect
200 mgm. Pethidine after 15 hours of labour - no effect
200 mgm. Pethidine after $21\frac{1}{2}$ hours of labour - slight effect
seconal grs. $1\frac{1}{2}$.

She received minimal nitrous oxide and air analgesia throughout a rather quieter second stage of 1 hour 20 minutes. She did not have a difficult delivery and there was but a very moderate degree of head moulding of the baby. Delivery was aided by an episiotomy. The infant was limp took an occasional breath and died after 25 minutes. Post-mortem examination was refused. The last dose (200 mgm. Pethidine, grains $1\frac{1}{2}$ 'seconal') was given 5 hours 20 minutes before birth.

On careful consideration of the above case it is considered improbable that pethidine contributed materially to this neo-natal death.

Signs of asphyxia at birth were noted in 17 infants - 7.4%. The incidence for all infants born during 1948 was 5.7%, i.e., 22 cases. Delay in the establishment of satisfactory respiration was slight in 3 cases (1,12,20 Appendix pages 18 and 19) and required no other treatment than routine clearance of the air passages. Of the 14 remaining cases 10 were born in a state of white asphyxia or shock and in 4 the infants were blue at birth.

One case of white asphyxia is reported already in detail as a neo-natal death. One other (case 13) gave rise to great anxiety. The mother, a primigravida of 25, had a rapid 4 hour first stage of labour, and a second stage of one hour. Aided by an episiotomy she delivered herself easily of a 6lb 8 oz. baby, a long infant extremely emaciated looking, covered with meconium and with meconium exuding from its nostrils. The infant lay limp making NO effort to breathe for three minutes. It then gave 3 feeble gasps at long intervals in spite of routine resuscitation measures. The heart beat slowed and

/stopped after 10 minutes

stopped after 10 minutes. An intracardiac injection of nikethamide caused the heart to beat again forcibly and breathing recommenced,15 minutes later breathing was still shallow and unsatisfactory but now regular and the infant was gently lowered into a warm bath with marked beneficial effect. The infant recovered and was known in hospital for the ten day laying-in period as the "skinned rabbit". This mother had 100 mgm of pethidine 3 hours 20 minutes before delivery and trilene for 45 minutes during the second stage. There was no evidence of toxaemia during pregnancy. The mother had a mild psychosis in the puerperium. It was considered that the rapid labour and condition of the infant were chiefly responsible for the asphyxia, but pethidine and trilene were possible contributory factors.

Apart from these two cases it is doubtful if pethidine contributed to foetal asphyxia to any serious extent. In 5 other cases (1, 2, 6, 15 and 21) of mild asphyxia it is considered that pethidine was in part responsible. In these cases pethidine was given 1 hour 45 mins., 2 hrs. 55 mins 3 hrs, 2 hrs 40 mins and 3 hours before birth respectively. In none of these cases was the asphyxia at all severe.

It is considered that pethidine does cause mild respiratory depression in the infant which can be seen clinically as a mild shallow breathing after initial satisfactory crying, calling for no special treatment, in a normal multigravid labour where pethidine has been given inadvertently late. We have observed this several times during the year of the investigation. For this reason it is recommended that pethidine be withheld in premature labour. It is further considered that it is inadvisable to give pethidine if delivery is expected within 3 hours if respiratory depression in the child is to be avoided. It is realised that this respiratory depression is mild but superimposed on asphyxia due to birth hazards it may cause neo-natal death (see conclusions at end of this thesis).

Pethidine has been found to be a most useful and invaluable sedative drug for use in the first stage of labour. In about half the patients analgesia satisfactory to the mother is secured and in at least 90% of cases relaxation and rest is obtained. The amnesic effect of pethidine in labour we have found to be present in about 10%. Occasionally amnesia is marked but more often it is slight or absent. We have found the mother's opinions of pethidine have improved since explanation of the reason for the injection has been explained to the mother and the mild toxic effects of 'giidiness, numbness, "floating on air" sweating mentioned.

The following is an example of a mother's reaction to pethidine. Analgesia was not satisfactory but relaxation, rest and a mild euphoria resulted.

PRIMIGRAVIDA, age 21, at term, in labour $3\frac{1}{2}$ hours, admitted 12.30 a.m.

1.5 a.m.		1.10	1.15	1.22	1.35	1.55
Exam. P.R.	Pulse Rate	88			96	(76)
Cervix	Blood Press.	140/88			142/88	140/86
3 fingers	Respirations	24			20	(18)
pains strong	Pupils	Moder: Dil'tn			Mod: Dilat.	Slightly smaller
every 2-3	Mouth	Dry			Tastes sick	Dry
min. last-ing one	Contract-tions	strong 2-3	Pethidine 150 mgm. I.M.	Vomited tea given 1 a.m.	Strong 2-3 min.	Strong 2-3 min.
minute	Foetal heart	126			130	130
	Subjective Phenomena	Relaxa-tion poor very restless			Still Dis-comfort & tense, pain severe in back	"I feel sleepy but my pains are no diff. looks sleepy & relaxed. No longer restless.

This mother was fully dilated atb3.30 a.m. and the infant born at 3.45 a.m.

This case was one of the 90% who relaxed and rested better after pethidine The 150 mgm dose did not appear to act until 30minutes had elapsed from the times of the injection. The baby showed no signs of asphyxia at birth.

We believe, that in an appreciable number of cases, Pethidine causes at least an apparent shortening of labour, providing that the drug is given only when the patient is actively in labour.

The Duration of the 2nd. stage of labour in 183 Primigravidae in this hospital in 1944, when only 37 patients received small doses of Pethidine by mouth, averaged 100 minutes. Episiotomy was performed 47 times i.e., in 25.5% Primigravidae.

The Duration of the 2nd stage of labour in 207 Primigravidae in this hospital in 1948, when 155 received effective doses of Pethidine, averaged 69 minutes.
Episiotomy was performed in 79 cases i.e., 38% Primigravidae.

Even taking into consideration the increased episiotomy rate, the difference of 31 minutes is impressive. One case of very marked prolongation of the second stage in 1944 was not included in the calculation. The Matron at present in charge of the nursing staff has supervised all cases since October 1940. Every OTHER case in which the 2nd stage could be calculated was included.

Further consideration of the figures has shown that -

In 1948	In 1944
50.7% Primigravidae were delivered within the 1st hour of the second stage.	24% Primigravidae were delivered within the 1st hour of the second stage.
76% were delivered within the first $1\frac{1}{2}$ hrs of the second stage.	53% were delivered within the first $1\frac{1}{2}$ hrs of the second stage.

A graph is included at the end of this thesis which illustrates the speeding up of the second stage of labour in Primigravidae in 1948 in comparison with 1944. Figures were calculated from the case records of those primigravidae whose second stage was recorded thereon. The number of mothers delivered in every quarter-hour period up to 3 hours was calculated, percentages worked out, and the result shown graphically.

The Forceps Rate (cephalic presentations) of the 226 mothers given Pethidine was nil, indeed during the year 1948 (total admissions 381, Primigravidae 56.7%) forceps delivery was carried out once only, electively, on the aftercoming head of a breech case.

It is considered that this achievement never before attained since the opening of the Hospital in 1929, reflects great credit on the Matron, Sisters and Staff-Midwives in gaining the willing co-operation of so many mothers in labour. The Matron, a modern midwife of outstanding ability, considers that pethidine has been a factor of great importance in this marked lowering of the forceps rate.

Adequately to consider the significance of this decline in the forceps rate the following statistics and graphs are presented.

1. STATISTICS OF THE LUCY BALDWIN MATERNITY HOSPITAL 1938-48.

The forceps rate fell sharply in 1941 and since then has varied from 5.32% to 2.5% in 1942 and 1946 respectively. The forceps rate average over the 10 year period of 5.04% is considered valueless because since 1941 the average rate for the past seven years has been much lower.

The percentage number of Primigravidae to the Total number of mothers delivered each year has averaged over the 10 year period 53.79%. The rate of Caesarean Section for disproportion (primigravidae only) averages 3.054% and the still-birth and neo-natal death rates per 1000 live births average 33.05% and 55.08% respectively.

The figures for 1948 are given below the 10 year averages and they show 40 emergency admissions, the highest number of the series; 56.7% Primigravidae, this figure being exceeded in 1947, 1942 and 1941. and 1940. There were no maternal deaths, no forceps delivery of vertex cases. The Caesarean Section rate for disproportion (primigravidae only) .46% is the lowest of the series.

The still-birth rate of 20.67 per 1000 is the second lowest in eleven years being lower (15.8) in 1945 when, however, the percentage of primigravidae also had fallen to 45.7%.

The combined still-birth and neo-natal death rate per 1000 live births of 38.76 is the third lowest for eleven years being lower in 1945 and 1939.

It is regretted that figures for Post Partum haemorrhage are not of any value until 1948 as accurate measurement of every post-partum loss was not carried out until the year 1948. The standard set and resulting in the figure of 6.56% was -

"any haemorrhage exceeding 20 fluid ounces regardless of the effect on the mother".

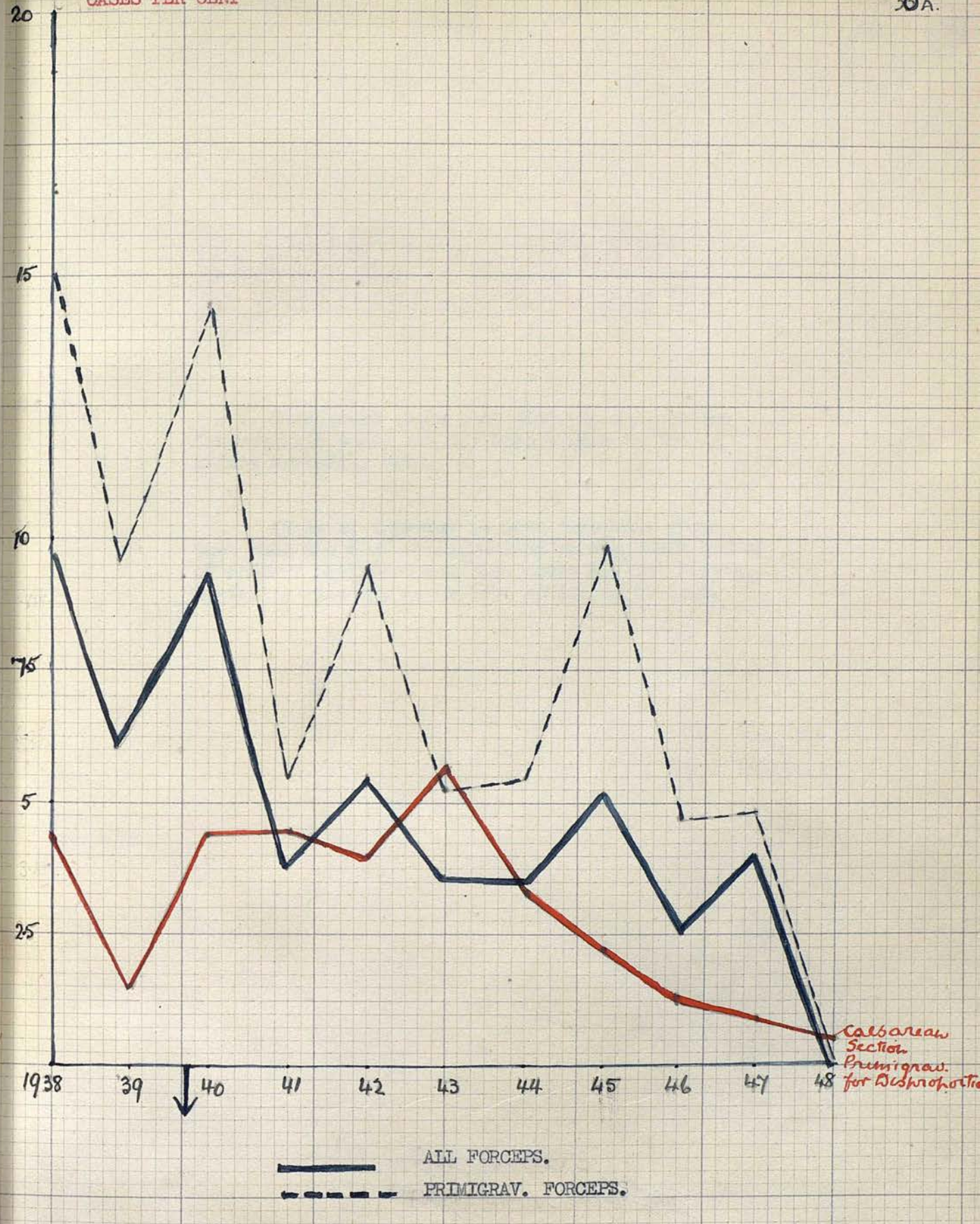
Lucy Baxter Maternity Hospital YEAR	TOTAL ADMISSIONS	EMERGENCY CASES ADMITTED	TOTAL DELIVERIES (Excluding Abortions)	TOTAL PRIMIGRAV.	% PRIMIGRAVIDAE OF TOTAL DELIVERIES	MATERNAL DEATHS	MATERNAL MORTALITY %	MORBIDITY %	FORCEPS RATE Vertex Cases	FORCEPS PRIMIGRAVIDAE ONLY	POST-PARTUM HAEMORRHAGE (Severe cases only)	CAESAREAN SECTION RATE	CAESAREAN SECTION FOR DISPROPORTION PRIMIGRAVIDAE ONLY	STILL-BIRTH RATE PER 1000	COMBINED STILL-BIRTH AND NEO-NATAL DEATHS per 1000	
1938	262	10	254	128	50.4%	0	0	4·2%	9·45%	16·4%	5·1%	4·33%	3·9%	50·2	65·6	'38
1939	339	19	331	141	51·66%	0	0	2·06%	6·04%	9·36%	4·53%	3·02%	1·75%	24	36	'39
1940	313	22	304	144	54·65%	4	1.244%	2.845%	9·12%	14·1%.	3·58%	3·26%.	3·95%	38·5	64·1	'40
1941	348	24	368	225	61·1%	0	0	1·85%	3·26%	5·34%	2·98%	3·26%	4%.	34·85	42·4	'41
1942	376	18	354	205	54·42%	1	·266%	3·19%.	5·32%	9·2%	4·2%	3·36%	3·4%.	38·48	60·9	'42
1943	332	25	319	145	54·85%	1	·301%.	2·19%	3·13%	5·14%	5·02%.	4·7%.	5·7%	40·37	62·1	'43
1944	401	19	386	189	48·9%	1	·249%	1·55%	3·1%	5·29%	2·3%.	3·1%.	3·17%	30·6.	58·4	'44
1945	389	25	374	141	45·7%	1	·257%	2·38%	5·1%	9·94%	2·1%.	2·9%.	2·34%	15·8	34·2	'45
1946	435	18	429	228	53%	2	·459%	2·29%	2·5%.	4·38%.	2·3%.	2·3%.	1·31%	22·4	47·4	'46
1947	350	18	342	196	57·3%	0	0	1·14%	3·5%.	4·59%	4·4%.	1·75%.	1·02%	34·4	49·1	'47
TOTALS and AVERAGES	3,575	198	3,467	1865	53·79%	10	·249%	2·373%.	5·042%	8·344%	3·651%.	3·198%	3·054%.	33·05	55·08	
1948	390	40	381	216	56·7%	0	0	1·84%	0	0	ALL CASES EXCEEDING 20 FL. OZS. 6·56%	1·03%	·46%	20·67	38·76	'48

The Hospital Statistics are given in full in order to give all the information that could be required for control of the investigation results.

2. GRAPH SHOWING FORCEPS RATES AND CAESAREAN SECTION FOR DISPROPORTION RATE AT THE LUCY BALDWIN MATERNITY HOSPITAL.

This graph, on the following page shows the marked fall in the forceps rate in 1941. The arrow denotes the appointment of the present Matron as sister-in-charge in October 1940. The two forceps rates (primigravid forceps, all forceps) then run on a lower plane until the end of 1947, falling sharply in 1948.

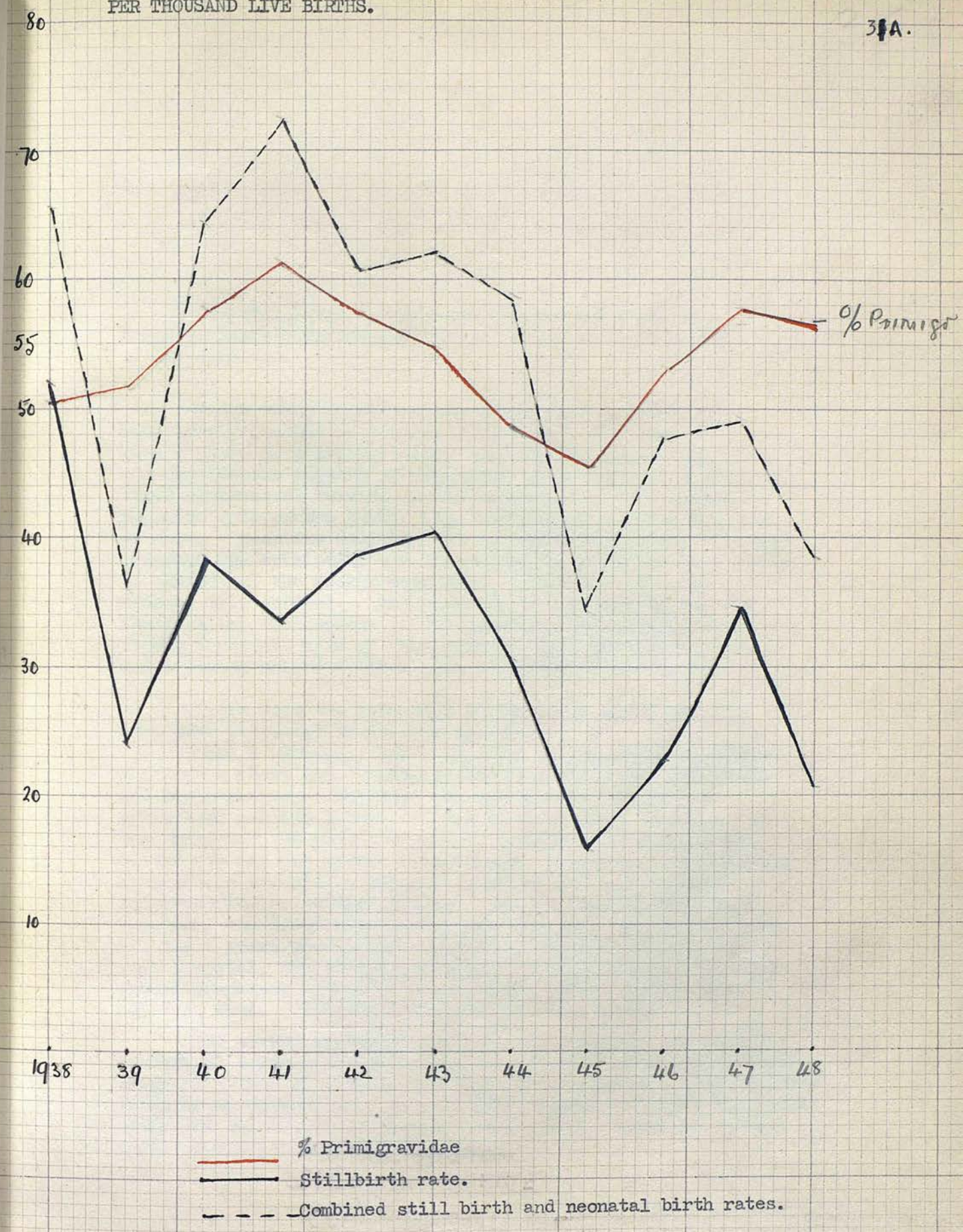
The Caesarean Section (Primigravid disproportion cases only) shows a rise to 1943 and then a steady fall to .46%, the lowest figure for eleven years, in 1948.


CASES PER CENT
20
15
10
7½
5
2½
1938
39
40
41
42
43
44
45
46
47
48
Caesarean Section
Primigrav. for Disproportion
ALL FORCEPS.
PRIMIGRAV. FORCEPS.

3. GRAPH SHOWING PERCENTAGE OF PRIMIGRAVIDAE TO TOTAL DELIVERIES, THE STILL-BIRTH RATE AND COMBINED STILL-BIRTH AND NEO-NATAL DEATH RATE, FROM 1938-48 AT THE LUCY BALDWIN MATERNITY HOSPITAL.

This graph shows that with the fall in the forceps rate there has not been a rise in the infant mortality rate.

It is of interest to note from this graph that when the % of Primigravidae to the total number of mothers delivered has been above 55, the foetal mortality rate has never been so low as in 1948.


PER THOUSAND LIVE BIRTHS.
80
70
60
55
50
40
30
20
10
% Primigs
1938
39
40
41
42
43
44
45
46
47
48
% Primigravidae
Stillbirth rate.
Combined still birth and neonatal birth rates.

4. ANNUAL REPORT OF THE LUCY BALDWIN MATERNITY HOSPITAL (APPENDIX PAGES ONE TO TWENTY) FOR THE YEAR 1948.

The still-births, neo-natal deaths and cases of Asphyxia Neonatorum are set out in detail on pages 14-19 of the Appendix.

There was one still-birth which might possibly have been prevented by forceps delivery. This was Case 7 (Mrs. S) a primigravida, who, at full dilatation and spontaneous rupture of membranes, also ruptured a moderate sized bloodvessel running in the membranes. This caused a moderate ante-partum haemorrhage and medical aid was summoned at once. Meantime delivery was accelerated by means of fundal pressure and episiotomy and the mother delivered herself within 20 minutes of the haemorrhage which killed her baby, as medical help arrived. The placenta was bi-partite and the blood vessel torn across in the membranes was clearly displayed. This unfortunate case of vasa praevia might conceivably have had a living baby had there been a resident obstetrician.

There were two neo-natal deaths which might possibly have been prevented by forceps delivery.

Case 2 (Mrs.V.G) had a two-hour second stage of labour. Pains were short and infrequent and the mother was moderately non-co-operative. Delivery was spontaneous aided by an episiotomy and the infant of 7lbs cried at once, lustily. On the third day the infant developed jaundice and death ensued on the 9th day the infant still deeply jaundiced. Post-mortem examination revealed a subdural haemorrhage (and a patent interventricular cardiac septum). Rhesus Factor, Wassermann Reaction, and blood examination were normal. The mother aged 41, had 4 years previously a difficult forceps delivery at this hospital, the infant surviving (Forceps 1944). For this second pregnancy induction of premature labour at 37½ weeks had been done. Vitamin K analogue had been given.

The second neo-natal death (Case 5 Mrs.A.P) the wildly hysterical toxaemia reported earlier in this thesis had a second stage of 1 hour 20 minutes duration and a relatively easy delivery aided by an episiotomy. Her hysteria quietened during the second stage and she became reasonably co-operative. Elective forceps might possibly have saved this baby.

It has been considered necessary to give these cases in detail to meet anticipated criticism of failure to use forceps. The writer of this thesis considers that forceps delivery might have saved the two neo-natal deaths, that the second stage in the neo-natal death Case 2, Mrs.V.G. was sufficiently prolonged to indicate forceps, but that indications for the use of forceps in neo-natal death case 5 Mrs.A.P, were not so evident, and that more thorough sedation earlier would possibly have been the correct treatment.

Of the 22 cases of asphyxia, neonatorum, cases 11 and 17, of persistent occipito posterior positions, who delivered themselves spontaneously, might have been manually rotated and delivered by forceps, but neither mother was seriously torn and both babies recovered rapidly. Case 12 and 22 who had a hard push to deliver their infants,both recovered satisfactorily, being carefully inspected six weeks later in the post-natal period. The babies recovered quickly. In none of the other cases of asphyxia neonatorum was there any reasonable indication for forceps.

It has been shown on page 19 that in 1948 there was a very marked increase in the use of pethidine and an equally marked decline in the use of other sedatives used in the first stage of labour. The above 4 investigations have been presented in support of the view that pethidine has been a factor of considerable importance in the marked decline in the use of forceps at the Lucy Baldwin Hospital. The investigations support the view that the decline in forceps rate is significant, and that this decline has not been secured at the expense of the mothers or their infants.

+++++++++

THE EFFECTS OF PETHIDINE ON POST-PARTUM HAEMORRHAGE

Prior to 1948 accurate measurement of all Post-Partum losses was not carried out. During 1948, the year investigated, every post-partum loss has been measured and recorded. The standard adopted in the classification of post-partum haemorrhage has been a loss exceeding 20 fluid ounces regardless of the effect on the mother.

During the year 1948 25 mothers had a haemorrhage exceeding 20 ounces, a rate of 6.56%.

Of the 226 mothers given pethidine 14 had a Post-partum haemorrhage, a rate of 6.2%.

These rates are high but no single case was severe, no case received blood transfusion and all the mothers made satisfactory recoveries. The cases are recorded in the Appendix at pages 7, 8 and 9.

In addition it was found that 17 mothers suffered a "Free Loss" of 20 fluid ounces and of these 17 mothers 12 had pethidine. Appendix pages 10 and 11.

Therefore of 226 mothers given pethidine 26 or 11.5% had a post-partum loss of a pint or more of blood.

The following table sets out the incidence and distribution of the haemorrhage cases.

	Total Number	P.P.H. 20ozs.	% P.P.H 20ozs	Loss of 20ozs.	Loss of 20oz or more	% Loss of 20 oz. or more.
Primigravidae given Pethidine	155	10	6.45%	8-5.2%	18	11.6%
Primigravidae not given Peth	61	3	5%	3-5%	6	9.8%
Multigrav: given Peth.	71	(4)	5.6%	(4) 5.6%	8	11.3%
Multigrav: not given Peth.	94	(8)	8.5%	(2) 2%	10	10.6%
TOTALS	381	25	6.56%	17	42	11%

The numbers are very small and the table would appear to indicate that pethidine has no effect on post-partum loss, but there is a curious reversal in the multigravid figures marked with a ring. It is noted that, as expected, the multigravid rapid labour in which there is no time to exhibit pethidine produces post-partum haemorrhage more frequently than the slower multigravida or primigravida. But examining the "free losses" of 20 ounces, 4 mothers out of 71 have a free loss given pethidine and only 2 , not given pethidine, out of 94, have this loss.

Examination of the 8 multigravidae given pethidine reveals that 3 had 100 mgms., 3 hours, 20 minutes, and 1hr 15 minutes before delivery and had post-partum haemorrhage. 4 had a 'free loss' of 20 ounces, and every case had 100 mgm. within 3 hours of delivery.

Examination further of the 3 multigravidae having pethidine within 3 hours and post-partum haemorrhage reveals that -

1 had an antepartum haemorrhage in addition to her post-partum haemorrhage,

1 had hyperpiesia (184/110) albumen in urine, a rapid labour and 8lb baby, and

1 had a 4 hours labour and a baby of 8lbs 13 ozs.

Therefore these haemorrhages could not reasonably be ascribed to pethidine alone.

But examination of the 4 multigravidae who had a 'free loss' of 20 ounces reveals no obstetric cause for this loss.

Lastly -

26 mothers of 226 receiving pethidine lost 20 fluid ounces or more of blood 11.5%

16 " " 155 not receiving pethidine lost 20 fluid ounces or more of blood 10%

The difference here is not great and could be accounted for by the greater difficulties encountered in labour in the pethidine group.

The high incidence of post-partum loss has been disturbing and is being carefully observed. The above figures would not have been presented in such detail were it not that the writer of this thesis considers that there are clinical grounds for suspecting that pethidine given within 3 hours of delivery produces a tendency to more free loss on separation of the placenta than in the normal case. It is not considered that the above figures prove anything. The amount of blood loss is not large, but haemorrhage in obstetrics is such a grave problem to-day that every possibility of prevention must be explored.

It is considered that it is inadvisable to administer pethidine for yet another reason, increased post-partum loss, if delivery of the baby is expected within 3 hours. If, inadvertently, pethidine has been given and delivery occurs within this time, it is recommended that 'Pitocin' and ergometrine be given as a routine in such cases immediately on delivery of the placenta. (See conclusions at end of this thesis).

THE EFFECT OF "NO FORCEPS" ON POST-PARTUM HAEMORRHAGE.

The high post-partum haemorrhage rate of 6.56% for 1948 has been carefully considered as a possible result of failure to use forceps.

In 207 primigravidae the duration of the second stage was recorded as described earlier in this thesis. The following table indicates that of the 13 primigravidae who suffered post-partum haemorrhage in 1948 only 3 had a second stage exceeding one and a half hours. One of the 3 had a loss of 60 fluid ounces, the other two lost 40 fluid ounces.

PRIMIGRAVIDAE

SECOND STAGE	No P.P.H.	P.P.H.	
Less than $1\frac{1}{2}$ hours	152	10	162
Longer than $1\frac{1}{2}$ hours	42	3	45
	194	13	207

It is considered on careful examination of the 25 cases of post-partum haemorrhage set out on pages 7, 8 and 9 of the Appendix that failure to use forceps does not explain the high post-partum haemorrhage rate.

The high rate of episiotomy also has been investigated as a possible factor in the high haemorrhage rate but can be definitely excluded.

It is regretted that accurate measurement of post-partum bleeding was not carried out before 1948.

Pethidine hydrochloride is a most valuable drug for use in the first stage of labour. It has a sedative, euphoric effect which relaxes and gives rest to the mother. It has an analgesic effect pleasing to the mother in about half the cases in which it is used, and in a few it produces a mild amnesia. When given to a mother in active labour it can cause an apparent shortening of the latter part of labour, and is an aid to normal spontaneous delivery reducing the need for forceps extraction.

For all the above reasons pethidine is a drug of great value in securing the Relief of Pain in Labour.

Pethidine causes very mild toxic symptons, never dangerous in the mother. These can be considerably ameliorated by explanation on administration of the drug. Given too early pethidine, slows, sometimes stops labour. Pethidine causes mild respiratory depression in the child and, it is suggested, should be withheld in premature labour. Further, it is suggested that it is advisable to withhold pethidine in cases where delivery is expected within 3 hours if respiratory depression in the infant is to be avoided. Lastly, there is a suspicion, on clinical grounds only, that pethidine given within 3 hours of delivery increases post-partum bleeding, by a few ounces, in the normal case. For this reason it is suggested that pethidine be withheld if delivery is expected within 3 hours, but, if inadvertently given, and delivery occurs within this time, ecbolics should be used in every such case immediately on delivery of the placenta.

++++++++++

TRICHLORETHYLENE

Trichlorethylene was first described in 1864. Its chemical formula is CCl_2: CHCl. It is a heavy colourless liquid with a specific gravity of 1.47 at 15°C, a vapour density of 4.53 and a boiling point of 87°C. It has a sweet distinctive but not pungent smell. It is non-inflammable and tends to decompose in strong sunlight with acid formation.

Crude trichlorethylene addiction has been noted in workmen breathing the vapour arising from vats, a pleasant intoxication resulting. Industrial poisoning has been reported, giddiness, vomiting and various nerve palsies, some proving fatal (Plessner 1916, Gerbis 1928, Stuber 1931). In 1936 Trumper and others recommended the use of trichlorethylene as a skin purifier, and to clean up burns and dirty wounds. For these purposes a specially purified and stabilised trichlorethylene - "Trilene" was produced by Messrs. Imperial Chemical Industries Ltd. This liquid, stabilised by the addition of 0.01% thymol and coloured blue for easy identification, has been used in the investigation to be reported below.

Striker, Goldblatt, Warm and Jackson (1935) in America first described 300 short administrations of trichlorethylene for minor operations. In 1939, Chalmers, an English chemist, approached the Joint Anaesthetics Committee of the Medical Research Council and the Royal Society of Medicine, suggesting a trial of the drug by anaesthetists, as the result of experiments with the drug which he had made upon himself. Hewer (1941) reported encouragingly on the drug.

Experimental work on the usual laboratory animals has been thoroughly carried out during the past twenty-five years and has indicated that trichlorethylene is only slightly toxic, certainly much less so than chloroform.

Joachimoglu (1921), Harzberg (1934)
Krantz (1935), Lande (1939)

The use of Trilene in deeper planes of anaesthesia has been carefully investigated by many anaesthetists, notably, Hewer (1946), Ostlere (1948), Marrett (1942) Brittain (1948) and Hunter (1948).

Tachypnoea is a sign of overdosage (Hewer). Electrocardiographic recordings in Trilene anaesthesia show changes of little clinical importance, except, possibly, multifocal ventricular tachycardia which in the case of chloroform can precede ventricular fibrillation. This type of arrhythmia has been recorded in about 10% of cases anaesthetised either with Trilene or Cyclopropane but primary cardiac failure is fortunately extremely rare. (Barns and Ives 1944). Herdman (1945) reported a doubtful case of acute yellow necrosis of the liver following prolonged anaesthesia with Trilene ($4\frac{1}{2}$ hours using 2 ozs of Trilene). Carden (1944) warns against the use of trilene in a closed circuit apparatus.

The first stage of anaesthesia with trilene is characterised by a marked degree of analgesia which with its low volatility and relatively low toxicity has made this drug useful as an obstetric analgesic and in this respect it is tending to replace or supplement nitrous oxide and air in Midwifery in many parts of Britain (Hewer 1946).

Several relatively simple "draw-over" inhalers have been designed for the self administration of Trilene notably by Marrett (1942), Freedman (1943), Calvert (1943), Hyatt, Gardener and Elam (1947).

In January 1948, a "Report of an Investigation into the use of Trichlorethylene as an Analgesic in Labour" was published by the Royal College of Obstetricians and Gynaecologists. The Investigation, again financed by the National Birthday Trust Fund, studied the use of Trilene in 2,354 cases in a representative series of hospitals. As a result of this investigation, the Council of the Royal College did not consider it possible to recommend the use of Trichlorethylene in the Freedman bottle as safe for use by midwives without supervision.

Further attempt is being made to produce an apparatus which may fulfil all the requirements of safety. Helliwell and Hutton (1949) report that a method of estimating Trichlorethylene in the blood and in trichlorethylene vapour/air mixtures has been discovered and that various types of auto-inhalers have been tested. Trichlorethylene, they continue, crosses the placental barrier in the pregnant ewe almost immediately after it is administered to the mother. They endeavoured to produce bradycardia, prolongation of the P-R interval or other arrhythmia in pregnant goats without success. They have partially investigated absorption per rectum.

In the following Investigation two types of Inhaler have been used.

1. The Improved Freedman Inhaler as used in the above official investigation, with finger-hole safety device and rather heavy face piece.

   The concentration of vapour delivered is said to be not constaht, varying according to MacIntosh (1948) with temperature and rate of flow. The limits of variation between temperatures of 17°c and 35°c are 0.42% and 1.15% of volume.

2. The Hyatt, Siebe-Gorman Apparatus - a modification of the Freedman Bottle and described by Hyatt, Gardener and Elam (1947).

   By means of a variable air adjustment device, the concentration percent of Trilene can be increased. The air-adjustment device can be locked with a removable key. With the air inlet orifice set at 5 a concentration of 0.43% of Trilene at 69°F is provided but concentration rises with temperature as with the Freedman bottle. With the air adjustment device set at 0 the manufacturers are unable to give the % of Trilene delivered but consider it to be "something over 1%".

   It is suggested by the manufacturers that by locking the device at 4 on the scale a too strong concentration of Trilene cannot be produced. The improved face-piece is light and easily held by the mother to her face and nose. Absence of a finger-hole safety device makes self administration simpler still.

Trichlorethylene in the form of "Trilene" (I.C.I. Pharmaceuticals Ltd) was administered to 100 cases at the Lucy Baldwin Maternity Hospital from March 1948 until February 1949. The individual case records are given in the Appendix pages 88 to 99.

There were 64 Primigravidae and 36 Multigravidae in the series.

There was one primigravid twin delivery, first infant a vertex, second a breech; three other primigravid breech deliveries, three cases delivered with the occiput peristently posterior, two primigravid and one multigravid. The other cases were normal vertex deliveries.

There were also two heart cases and nine toxaemias of pregnancy.

The forceps was used once, electively, on the after coming head of a breech, 'Trilene' being given with the Freedman Bottle in addition to local infiltration for this operation. The patient had nitrous-oxide air until the last 15 minutes (Case 5).

18 mothers had 'Trilene' alone during labour

82 mothers had 'Trilene' and Pethidine, and 6 of the 82 had in addition Potassium Bromide and Chloral (2)
Chloral hydrate (3)
'Seconal' (1)

ADMINISTRATION

Trilene was given towards the end of the first stage or in the second stage of labour when the patient appeared to be in need of relief. None had received any preliminary education in the use of the apparatus on lines considered so essential for the successful use of nitrous oxide-air analgesia.

Trilene was self-administered by the Freedman Bottle (Improved Model), the Siebe-Gorman apparatus and in one case from the chloroform bottle of A Boyle's machine for varying periods as follows:-

Apparatus	Average Duration of administration	Average Duration Primigrav:	Average Duration Multig:	Longest case	Shortest case
Freedman	36 minutes	38 minutes	34 min.	2hr.10	10 min:
Siebe-Gorman	51 "	58 "	34 "	3hrs	5 min.
Boyle	-	45 "	-	-	-

Trilene was seldom used continuously until near the end of labour but usually with the pains only or in several cases between pains only. The amount of Trilene used was small varying from $\frac{1}{2}$ - 7 ccs.

THE EFFICACY OF THE ANALGESIA

In assessing this every case was duly considered by the Observer, note being taken of the mothers reactions in labour, at delivery and subsequently. The mother's opinion was considered most important.

7 patients were dissatisfied with 'Trilene' and of these
7 it was noted that 4 were multigravidae (total 36 multigravidae).

The dissatisfied cases are recorded in detail:-

MULTIGRAVIDAE

1 Case 10 Gravida 2 had been hysterical earlier in labour.
2 Case 23 Gravida 2 had forceps with first baby. Nervous.
3 Case 24 Gravida 2 had a rigid perineum and had nitrous oxide and oxygen anaesthesia with her first. Nervous.
4 Case 99 Gravida 3 had forceps first baby, chloroform 2nd baby, calm.

PRIMIGRAVIDAE

1 Case 3 calm, intelligent, aged 34, after 1 hr 10 mins. of trilene (Siebe-Gorman up to 0) and 7 minutes before delivery co-operating perfectly, quietly asked the observer 'When do I have my anaesthetic, doctor ?".

2 Case 70 nervous, sensitive, aged 31 " I can't get on with this stuff " co-operative.

3 Case 86 calm, co-operative, aged 25 " I suppose it must have helped but it didn't seem very strong to me.

Twenty patients were doubtful of the efficacy of the analgesia sixteen primigravidae, four multigravidae.

Seventy three patients, however, were pleased with the efficacy of the analgesia.

The following table is presented for comparison of results with the different apparatus.

EFFICACY OF ANALGESIA - MOTHER'S OPINION

Apparatus	Pleased	Doubtful	Dissatisfied	TOTAL
Freedman Bottle	20	6	4	30
Siebe-Gorman	52	14	3	69
Boyles'	1	-	-	1
TOTAL	73	20	7	100

Trilene in the chloroform bottle of Boyles' Anaesthetic machine, and given sparingly with oxygen, gave satisfactory analgesia reinforced by local infiltration with 2% Procaine-Adrenaline solution in Case 43, a mitral stenosis (compensated).

The number of cases was small but we consider the Hyatt-Siebe-Gorman apparatus superior to the Freedman Bottle for the following reasons:-

1. Variation of air over 'Trilene' mixture is most valuable in view of thw wide variation in the requirements of 'Trilene' in different individuals. This variation is not possible with the Freedman Bottle.

2. The lighter face piece of the Siebe-Gorman apparatus with no aperture requiring the use of the patient's finger can be used to greater advantage by the mother.

3. 4 of 20 cases were dissatisfied with the Freeman Bottle (6 Doubtful).

4. 3 of the 52 cases were dissatisfied with the Siebe-Gorman Apparatus (14 doubtful).

In most cases in which the Siebe-Gorman apparatus was used, the arrow of the air adjustment device was set at 5 at the outset of administration advanced to 3 as the pains increased and at this figure 70% of the mothers were delivered, the remainder were advanced to 0 for crowning and delivery, and for suturing the perineum.

COMPARISON OF 'TRILENE' WITH NITROUS OXIDE - AIR FROM MINNETT'S APPARATUS

Although no thorough ante-natal instruction is given in the use of Minnett's Apparatus in this hospital, the staff is experienced in its use and can employ synergistic methods, e.g., with chloralhydrate with success. The apparatus is regularly overhauled once a month by a visiting engineer.

Direct comparison of the analgesic effect of the two methods was possible in eight cases (Nos. 1, 5, 9, 16, 22 31, 38 and 98) who were first given nitrous oxide-air and then 'trilene' and all eight mothers gained appreciably better relief with trilene. We have found 'Trilene' invaluable in obtaining the co-operation of the mother, and, used intermittently until near the end of labour, as described above, no case became too sleepy to be unco-operative. Compared with nitrous oxide air, we believe that 'Trilene' is easier to administer and yet still retain the mother's will and power to use her secondary powers effectively. It is also more useful in cases with short infrequent pains when 'Trilene' administered between contractions only permits the mother to use fully her contraction without the encumbrance of holding a mask on her face, the analgesic effect continuing for a sufficient length of time to relieve the pain of the contraction.

Episiotomy was performed in 28 cases with 'Trilene' analgesia alone. There were 37 episiotomy incisions in the series, 9 of which received local infiltration in addition. Several of the 28 cases would have benefited from local infiltration but of the 28 episiotomies performed with Trilene analgesia only, the majority were painless.

Suturing of the Perineum with 'Trilene' analgesia only, however, was a painful operation in 2/3rds of the 28 cases even although performed immediately after labour.

THE EFFECT OF THE ANALGESIA ON THE COURSE OF LABOUR

3 cases were observed where the analgesia interfered with co-operation, (cases 6, 9, 48). All three had short ineffectual contractions and in two (Nos. 6, 9) the Trilene was stopped to get the mother to concentrate on using her contractions. In no case was unconsciousness allowed to occur. In the 3rd case (48) the mother became mildly cyanosed and Trilene was stopped for this reason, and for slowing of the foetal heart (reported in detail below). The remaining 97 patients were most co-operative although several required instructions to be given clearly and distinctly. We were impressed with the appearance of rest and relaxation obtained between contractions with Trilene.

The average duration of the second stage in 63 Primigravidae given trilene (Primigravid twin case not included) was

73 minutes - Episiotomy rate 50% - 54 received pethidine

The average duration of the second stage 207 primigravidae delivered at the hospital in 1948, was

69 minutes - Episiotomy rate 38% - 155 received pethidine

The average duration of the second stage 183 Primigravidae delivered at hospital in 1944 was

100 minutes - Episiotomy rate 25.5% - 37 received pethidine

It would appear from the above figures that 'Trilene' does cause some delay, probably not more than a few minutes and possibly this delay represents expenditure of the mother's secondary powers in breathing the Trilene instead of fully using her secondary powers. The view is taken that the delay is almost negligible, and worth while in view of the analgesia obtained.

Trichlorethylene had no effect on the forceps rate.

EFFECTS OF TRICHLORETHYLENE ON THE MOTHER

There were no maternal deaths nor were any puerperia morbid. All episiotomies healed well.

None of the 100 mothers objected to the smell of Trilene. It was not found to cause vomiting and there were no after-effects e.g., headache, nausea, or bad taste in the mouth.

There were six cases of Post-Partum Haemorrhage

1 Case 63. Gravida 1. A second stage of labour of 1hr 20 minutes (the longest 2nd stage of the six cases) and co-operated well to deliver an 8lb baby.

2 Case 73. Gravida 1 A very rapid second stage of 15 minutes episiotomy and a 7lb 10 oz. baby (Pethidine 2 hrs before delivery).

3 Cases 47 & 4 and 86 were associated with retained fragments, and a retained placenta subsequently expressed by Crede's manœvre, respectively.

5 Case 26 was associated with toxaemia and pyelitis

6 Case 15 had a rapid labour, toxaemia, blood pressure 180/110.

It is considered that of the six cases of Post-Partum Haemorrhage, not one of which was serious, none could be attributed to Trilene.

In view of the short duration of the second stage in the above six cases, none of which exceeded 1 hr 20 minutes, it is considered that failure to use forceps was not the cause of the high incidence of excessive haemorrhage.

EFFECT OF TRILENE ON THE MATERNAL PULSE RATE

In one case was Bradycardia and slight Cyanosis noted. This primigravida 37 weeks pregnant, entered hospital at 8.15 a.m. labour having started at 3a.m. Her pulse rate on admission was recorded as 64, blood pressure 112/60. At 11.15 a.m. at 3 fingers dilatation and having regular strong contractions pethidine mgms. 100 was administered. Full dilatation was recorded at 12.20 p.m. and then the mother's pulse was 60, the foetal heart 118. Trilene with the Siebe-Gorman Apparatus, air adjustment set at 5 was started and given for 30 minutes. At 12.50 p.m. the mother's pulse was noted to be 54, she was slightly cyanosed and the foetal heart although regular had dropped to 98. Trilene was stopped, Fundal pressure was used to expedite delivery which occurred at 1.05 p.m., a few whiffs of Trilene being given for the actual delivery. The infant, 6lbs 5½ ounces gave one cry and then became limp and cyanosed. Routine resuscitative measures were adopted. Respirations were shallow and scarcely perceptible for 20 minutes and then gradually became normal. The mother sustained a first degree tear of perineum.

It is considered that Trilene caused the maternal cyanosis, possibly + PETHIDINE TOO and bradycardia and that Trilene probably increased the severity of the infant's respiratory depression which was primarily due to Pethidine administered 1 hour and 50 minutes before birth.

The above case illustrates the risk of sedation in premature labour.

EFFECT OF TRILENE ON THE CHILD

Of 101 children born there was 1 still-birth (anencephaly case 82) and 1 neo-natal death from Intra-cranial haemorrhage (see page 31.) (case 23). Trilene was in no way responsible for these deaths.

There was one case of slowing of the foetal heart rate to 98 in the premature baby noted above in which late pethidine was an important factor.

ASPHYXIA NEONATORUM (DELAY IN ESTABLISHMENT OF SATISFACTORY RESPIRATION

This was noted in 9 cases.

1. Case 5. Primigravid Breech, forceps to after-coming head. Trilene 10 minutes. Mild. Local infiltration.

2. Case 6 Gravida 3. Easy delivery. Pethidine 55 minutes before birth. Trilene 50 minutes. Mild.

3. Case 8 Primigravida, toxaemia, 38 weeks, infant almost face to pubis, moulded ++, Trilene 2hr 10 minutes. Mild.

(4). Case 12 Primigravida, 5¼ hour easy labour, Pethidine 3 hrs. 20 minutes, before birth. Long emaciated infant. Trilene 45 minutes. Siebe-Gorman set at 5 throughout. SEVERE ASPHYXIA

5. Case 13 Primigravida, 2 hr 10 minutes 2nd stage, marked moulding of head. Trilene 5 minutes at end. MODERATE ASPHYXIA.

6. Case 43 Primigravid. Compensated heart case 2 hr 20 min. 2nd stage 9lb 5oz. baby. Episiotomy Local Infiltration Trilene 30 minutes with oxygen in Boyle's apparatus. MILD

(7). Case 46 Primigravida, normal labour, Pethidine 3 hrs 45 minutes before birth. Trilene Siebe-Gorman at 5 throughout for 45 minutes. MILD.

(8). Case 48 Primigravida reported above. MODERATE. Trilene 30 minutes Siebe-Gorman at 5.

9. Case 80 Primigravid breech assisted delivery Trilene 1 hour 5 minutes.

Of the above 9 cases 5 (cases 1,,3, 5, 6, and 9) were asphyxiated by dystocia or breech delivery.

One (case 2) was almost certainly due to pethidine alone.

In 3 cases only could Trilene be considered as causing asphyxia (Cases 4, 7 and 8) and all three had pethidine within 3¾ hours of delivery. In case 4 the emaciated ? toxic condition of the infant was another factor, in case 7 the asphyxia was very mild, and in case 8 prematurity was another factor.

Only one asphyxia was severe (Case 4) and intracardiac nikethamide was used.

All the infants recovered.

CONCLUSIONS

It is considered that Trichlorethylene is a more potent analgesic for use in late labour than nitrous oxide and air administered by the Minnitt apparatus. Most mothers find it pleasant to inhale, it is an aid to relaxation between contractions and probably produces a mild euphoria, The short retrograde amnesia often noted enhances its value in labour.

73% of mothers were pleased with the analgesia received but 20% were doubtful and 7% were dissatisfied. Apparatus with a variable air inlet device and a light face piece, with no finger hole device, is considered an advantage for supervised administration. Stronger concentrations of Trilene than can be given with the Freedman Bottle were given in 30% of cases in order to test the safety of the drug thoroughly. No untoward effect was noted in any of the 30 cases or babies in which this was done.

It is considered that trilene is superior to the Minnitt nitrous oxide apparatus in 3 important respects:-

1. The resulting analgesia is more marked.
2. There is less interference with the mother's ability to use her secondary powers.
3. Use between contractions only, produces analgesia which lasts for the duration of the contraction

Trichlorethylene causes a slight delay in labour which is considered negligible in view of the enhanced analgesia. It did not cause any increase in the obstetric interference rate in the 100 cases observed. It had similarly no effect on the post-partum haemorrhage rate. It is inadequate for perineal repair. One mother became cyanosed and her pulse rate dropped from 60 to 54 after 30 minutes administration. In 3 infants Trichlorethylene may have been a factor in causing asphyxia. All the infants recovered.

It is recommended that, until further experience with Trilene has been obtained, it should not be used in cases of premature labour, unless, on occasion, for the actual delivery. A similar recommendation applies to cases of toxaemic pregnancy. In all other cases in which it is used constant watchfulness of the mother's reactions (e.g. sleepiness) and colour, the mother's pulse and the foetal heart are essential. If pethidine has been administered late, i.e., within 3 hours of probable delivery, nitrous oxide-air analgesia should be used, Trilene being reserved, and given sparingly for actual delivery only if required.

TRIAL OF THE "BASIC METHOD" OF PAIN RELIEF IN GENERAL MEDICAL PRACTICE

The basic method of Pain Relief in Labour investigated in this Thesis viz., Relaxation - Pethidine when indicated - self administered Trichlorethylene, was used in the labours of THIRTY-FOUR "PRIVATE BOOKED" CASES in the Observer's Practice, 19 IN THE LUCY BALDWIN HOSPITAL and 15 IN THE HOMES OF THE PATIENTS.

4 Hospital cases (4, 8, 11 and 16) on pages 88, 89 and 90. of the Appendix, were delivered by the Observer's partners and are included, with their permission, as comparable case records in which the basic method was used. The remaining 30 cases were delivered by the Observer from January 30th 1948 to February 29th 1949, and with the exception of one "B.B.A" not recorded (mother and child alive and well) occurred consecutively in the Observer's practice.

The 19 hospital cases are detailed in the Trilene records on pages 88 to 99 of the Appendix.

The 15 home cases are detailed on pages 100 to 102 of the Appendix.

There were 12 primigravidae and 22 multigravidae in the series.

The results of Relaxation, numbers given Pethidine and details of Anaesthesia are tabulated as follows:

N.B. ALL CASES HAD 'TRILENE'

	HOSPITAL CASES		DOMICILIARY CASES	
	PRIMIGRAV.	MULTIGRAV.	PRIMIGRAV.	MULTIGRAV.
NUMBER OF CASES	8	11	4	11
Relaxation	7 good 1 poor	9 good 2 poor	4 good	6 good 5 poor
Number given Pethidine	8	9	2	8
Number given Trilene and no other analgesic or anaesthetic in 2nd stage	0	8	3	5
Number given Local Infiltration in addition to Trilene	6	2	0	2
Number given short general anaesthetic for crowning & delivery in addition to Trilene & local Infiltr: if reqd.	2 1, $N_2O + O_2$ 1, "V.A.M"	1 $N_2O + O_2$	1 Chloroform	4 2 Chloroform 2 Chloroform Ether Mixture

In hospital Trilene was administered with Freedman Bottle or Siebe-Gorman Apparatus, and one heart case had Trilene with oxygen from Boyle's apparatus.

In the home, the Freedman Bottle was used only.

Of 34 mothers all delivered spontaneously, and had normal puerperia. There were two cases of Post-Partum Haemorrhage (22 and 26 fluid ozs respectively). There were 4 cases of mild asphyxia.

Of the 34 mothers -

1 Hospital Case (51) a primigravida delivered her infant face to Pubis.
1 Hospital case (9) a primigravida had twins.
2 District Cases (9 and 14) multigravidae had toxaemia and albuminuria.
1 Hospital case (43) a primigravida, had compensated Mitral Stenosis.
1 Hospital case (72) multigravida, was prematurely induced (Drew-Smyth) for bad history.

Episiotomy was performed on 8 of the 12 Primigravidae
and 4 of the 22 multigravidae

2 Perineums were torn (both multigravidae)

POST-PARTUM HAEMORRHAGE

In 34 mothers there were 2 mild cases (both on district) and 2 cases of 'free loss' of 20 fluid ounces (both in hospital).

POST-PARTUM HAEMORRHAGE

1. (District case 7) Gravida 2. Lost 26 ounces. She had a 10 lb. baby, Pethidine 1 hour and 35 minutes before delivery, Trilene for 35 minutes, Chloroform and Ether mixture 5 minutes.

2. (District case 11) Gravida 2 1st Forceps. Lost 22 ounces. Pethidine 1 hour and 40 minutes before delivery. Trilene 2 hours and local infiltration for episiotomy.

One case of 'free loss' in hospital had anaemia in pregnancy and Pethidine 55 minutes before delivery (case 6 hospital). The other had a long second stage of 2 hours 10 minutes (case 13 hospital).

It is considered that there was no indication for the use of forceps in any of these 4 cases although hospital case 13 had this second stage of 2 hours and 10 minutes - the length of the second stage was due to the short duration of her relatively painless contractions. She had pethidine 200 mgms. the last 100, 4 hours before delivery.

ASPHYXIA NEONATORUM

Of 35 babies born –

2 had asphyxia livida due to dystocia
(hospital cases 13 and 43)

2 had mild respiratory depression
(hospital case 6 (Pethidine 55 minutes before delivery)
(District case 9 (Pethidine 1 hr before delivery)

Local infiltration was by injection of 2 – 10cc of 2% Procaine Adrenaline solution into the tissues of the perineum.

It is the observer's practice to use nitrous oxide and oxygen from A Boyle's machine for anaesthesia, when required at crowning and delivery in hospital in personally attended cases. In one primigravida vinesthine Aether Mixture (Messrs. May & Baker Ltd., London) was tried. This is a mixture of 75% Ethyl Ether and 25% Divinyl Ether. It was given in a Freedman Bottle but the patient liked neither the irritating pungent smell, or the rapid loss of consciousness which ensued. The Observer uses pure chloroform as a late anaesthetic when the head is crowned, on district. A mixture of 2 parts of chloroform and 3 parts of Ethyl Ether was used in two district cases but this mixture proved inferior to chloroform in that both patients became almost uncontrollable before anaesthesia was adequate.

'Trilene' in this short series of 34 cases was given in the longest administration for 2 hours 45 minutes, and the shortest for 3 minutes. The average length of administration for primigravidae was 63 minutes, and for multigravidae 60 minutes.

In the 34 cases occurring in private practice it was found that –

The basic method of analgesia was used alone in 16 mothers, and of these, 3 were doubtful of the efficacy of the analgesia given.

The basic method was supplemented by local infiltration of the perineum and vulva in a further 10.

The basic method was supplemented by a very short general anaesthetic at crowning of the head in a further 8.

CONCLUSIONS

The Observer's aim was to obtain the maximum number of satisfied mothers by means of the basic method alone, and, it is disappointing to have to record, that only 13 cases out of 34 could truly be said to have had analgesia satisfactory to the mother by this method. It is, however, evident that by the very simple and relatively safe methods of local infiltration and a short general anaesthetic for actual delivery pain relief of a manner satisfactory to most mothers can be secured.

The mild asphyxia in the 2 babies which was due almost certainly to late pethidine could probably have been avoided by withholding pethidine and giving 'Trilene' instead for a longer peiod providing as satisfactory analgesia, in a manner probably safer for the baby.

It is possible that late pethidine was a contributory factor in causing the two post-partum haemorrhages and in the 'free loss' in hospital case 6. In passing, it should be mentioned that it is difficult at times to administer pethidine at the optimum time in domiciliary practice, unless an experienced midwife, or the doctor, is in constant attendance during the first stage.

It is satisfactory to be able to record that of 12 primigravidae who were given instruction and information on 'Relaxation' 11 relaxed well in labour and in the Observer's opinion benefited considerably from this method. The multigravidae were, as noted in hospital also, not so ready to co-operate. Nevertheless we believe that morale in the primigravid woman is upheld in a convincing manner by the employment of Jacobson - Dick Read methods.

+++++

SUMMARY AND CONCLUSIONS

The historical aspects of the Relief of Pain in Labour and methods of relieving pain in current use are reviewed.

A 'pilot survey' of 50 consecutive deliveries by Midwives, the mothers receiving no sedation or analgesia in their labours, was carried out in the Observer's semi-rural practice during 1948. The 50 cases are reported. This survey suggested that, in the district concerned, there was no real DEMANDfor pain relief in labour that was not met in the few necessitous cases by the Midwife summoning medical aid in accordance with the present regulations of the Central Midwives Board. The survey also suggests that simple measures e.g., Instruction in Relaxation, Nitrous Oxide and Air, or 'Trilene', will at present satisfy the great majority of workingclass mothers who choose the Midwife to care for them in labour.

A 'Basic Method' of pain-relief comprising,

Relaxation,
Pethidine, if required, in the 1st stage,
and
Self administered Trichlorethylene

is studied in detail in 396 cases to consider its suitability for use:

1. In a 21 bed Maternity Hospital with no resident obstetrician

2. In Private general practice.

RELAXATION

A practical application of Jacobson-Dick Read methods is described. Spontaneous delivery of every vertex case in 396 mothers given simple instruction in these methods is presented as evidence that this method has probably augmented morale, particularly of the primigravid mother in labour. The method is considered valuable in early labour postponing the need for sedation and thereby obviating the risk of slowing labour by the too premature use of pethidine. The method is used in later labour as an adjuvant to 'Trilene' analgesia and is invaluable in preventing the too premature use of the secondary powers when the mother is nearing full dilatation.

63% of 381 mothers delivered in Hospital in 1948, however were judged to require 1st stage sedation (73% Primigravidae and 48.5% of the Multigravidae).

PETHIDINE HYDROCHLORIDE

The Literature to date has been reviewed.

The use of Pethidine in labour is studied in 226 cases (155 Primigravidae and 71 Multigravidae) delivered in hospital in 1948, there being a sudden marked increase in the use of this drug, Pethidine being given to 71% of Primigravidae and 43% of Multigravidae.

There was no maternal mortality. Toxic symptons in the mother were slight and transient. The foetal mortality (228 infants born) was 8 still-births (3.5%) and 4 neo-natal deaths (1.75%). It is unlikely that Pethidine contributed materially to any still-births or neo-natal deaths. Signs of asphyxia were noted in 17 infants (one died) 7.4%. It is considered improbable that pethidine contributed materially to this death. Pethidine was a contributory factor in 2 severe cases of asphyxia, and gave rise to mild respiratory depression in several cases when administered late in labour.

In about one half of the patients analgesia pleasing to the mother was obtained. In at least 90% relaxation and rest was obtained. Amnesia was present in about 10%.

Evidence of an apparent shortening of the 2nd stage of labour is presented -

In 207 Primigravidae in 1948 the 2nd stage averaged 69 minutes

155 given Pethidine (38% Episiotomy Rate)

In 183 Primigravidae in 1944 the 2nd stage averaged 100 minutes

37 given Pethidine by mouth (25.5% Episiotomy Rate)

A graph is presented showing the apparently more rapid second stage in 1948 compared with 1944, in groups of patients delivered every $\frac{1}{4}$ hour period.

The Forceps Rate (one breech case excepted) in the 226 cases was NIL.

The view that the decline in the Forceps rate is significant, and in part due to the marked increase in the use of Pethidine in 1948, is supported by hospital records for the period 1938-48, prepared by the writer of this thesis for control purposes.

The effect of the non-use of forceps on mothers and infants is examined. One stillbirth and two neonatal deaths are considered in detail. It is considered doubtful that forceps delivery would have saved these infants.

It is suggested that Pethidine may in part be responsible for the high Post-Partum haemorrhage rate of 6.2% and the figure of 11.5% for mothers losing 20 fluid ounces or more of blood post-partem. The decline in the forceps rate is also discussed from this viewpoint.

TRICHLORETHYLENE

The Literature is reviewed.

Trichlorethylene was administered to 100cases (64 Primigravidae and 36 Multigravidae) at the Lucy Baldwin Maternity Hospital from March 1948 until February 1949. Case records are appended -

73 mothers were pleased with the analgesia resulting

20 " " doubtful of " " "

7 " " dissatisfied with " " "

The Hyatt-Siebe-Gorman appartus with its variable air-adjustment device was considered an improvement on the Freedman Bottle. Eight mothers gained appreciably more relief with Trichlorethylene than with nitrous oxide and air. Of 28 Episiotomies performed with Trichlorethylene Analgesia alone the majority were painless, but repair of the perineum with this analgesia alone is painful.

In 3 cases Trichlorethylene interfered with co-operation of the mother.

The average duration of the second stage of labour in 63 Primigravidae was 73 minutes (32 Episiotomies). It is considered therefore that the delay in labour when Trichlorethylene is used is not marked.

There were no maternal deaths in the series, but one mother became cyanosed and her pulse slowed from 60 to 54 after 30 minutes use of the analgesic.

The foetal heart rate slowed in this case from 118 to 98 and the infant was born in a state of moderate asphyxia (Pethidine had also been given).

There were six cases of Post-Partum haemorrhage none severe, and none of these could be attributed to Trichlorethylene. There was no forceps delivery of a vertex case. One breech case was delivered electively by forceps, 'Trilene' being administered for 10 minutes for this purpose with successful analgesia, Nitrous - oxide- air having been given in this case until actual delivery.

Of 101 children born there was one still birth (anencephaly) and one neo-natal death (intracranial haemorrhage, fully reported on page 31).

Asphyxia was noted in 9 cases. Trichlorethylene was a doubtful contributory factor in 4 of these cases.

USE OF THE 'BASIC METHOD' IN 34 "PRIVATE BOOKED" CASES

This short series is briefly recorded as a test of the efficacy of the method. 19 mothers were delivered in hospital, 15 at home. Case records are appended.

The 34 mothers (12 Primigravidae and 22 Multigravidae) had spontaneous deliveries.

2 Had mild Post-Partum haemorrhage (26 and 22 fluid ounces).

Of 35 babies born 4 had asphyxia, 2 associated with difficult labour, and 2 mild cases associated with Pethidine.

In the 34 cases the 'Basic Method' only was used, in 16. The Basic method was supplemented by local Infiltration of the perineum in a further 10, and the Basic Method

/was

was supplemented by a short general anaesthetic in a further 8.

3 of the 16 mothers who had the Basic Method alone were doubtful of the efficacy of the Analgesia given.

It is a disappointment to have to record that, in this testing series of cases, only 13 mothers in 34 were satisfied with the Basic Method used alone.

****

CONCLUSIONS

Instruction of the mother in the physiology of Pregnancy and Mechanism of labour, and encouragement in the practice of muscle control and relaxation are of value. They augment morale in the expectant mother and help to secure less painful and less tedious labour.

The use of Pethidine in labour in 71% of Primigravidae and 43% of multigravidae carried out in 1948 in hospital, undoubtedly relieved a considerable amount of suffering, apparently shortened the second stage of labour, was probably an important factor in lowering the rate of obstetric interference, and during the year of its full employment the hospital statistics for infant mortality showed a desirable downward trend.

But, the incidence of 7.4% of asphyxia neonatorum in the pethidine series studied is high, as is also the incidence of 11.5% of mothers losing 20 fluid ounces or more of blood post-partum.

It is concluded that in hospital practice -

1. 70% of Primigravidae receiving Pethidine is not an unduly high figure if adequate first stage pain relief is the aim. But Pethidine should be withheld in cases of Premature Labour and given sparingly in cases of Toxaemia at Term.

   It should be the aim to administer pethidine at least 3 hours before anticipated delivery, but it is realised that this is impracticable to define as a strict rule, as in a considerable number of normal primigravid labours delivery occurs more rapidly when pethidine has been administered at the optimum time.

In cases therefore, in which delivery within 3 hours of the administration of pethidine is imminent, it is suggested that Nitrous Oxide and Air analgesia be given

/if required

if required in later labour, Trichlorethylene being reserved, and used if considered necessary, for crowning and delivery only.

In these ways the incidence of asphyxia neonatorum in Primigravidae may be reduced.-

2. 43% of the Multigravidae receiving Pethidine is a high figure. It is suggested that multigravidae appearing in need of first stage sedation or analgesia, and advancing normally could be adequately relieved by Chloral hydrate and the earlier use of Nitrous-Oxide and Air, Trichlorethylene being given later if required, Pethidine being reserved for Multigravidae in slower more tedious labour, often with a history of difficult labour previously.

In these ways it is suggested that 'late pethidine' in multigravidae may be avoided in a number of cases, thereby possibly reducing the high figure of post-partum blood loss, and at the same time the incidence of asphyxia.

3. In cases where Pethidine has inadvertently been given within 3 hours of delivery, ecbolic drugs should be administered as a routine IMMEDIATELY on delivery of the placenta.

4. Until further information on the use of Trichlorethylene in labour is forthcoming, this analgesic should be withheld in cases of premature labour and cases of toxaemia of Pregnancy at term, and used, as described above, in cases of 'late' Pethidine, if required, ONLY AT CROWNING and DELIVERY.

5. In hospital, without resident medical staff, and where ante-natal snd intra-natal care, care in the conduct of the 3rd stage of labour, and ante-natal and post-natal paediatrics are kept constantly in mind, there is a strong case for permitting the use of Trichlor-ethylene, as an analgesic in late labour, by the sisters and staff midwives provided they have had a period of superised training in its use.

6. While considering that the hospital results shown in this thesis, in respect particularly of the FORCEPS rate, are clear evidence of the importance of skill and devotion to duty on the part of the Nursing Staff in gaining the willing co-operation of the mother in labour, yet it must be constantly borne in mind, that as methods of alleviation of pain in labour increase in effectiveness there is an increased risk that, on occasion, the mother's efforts may harm herself or the child more than would a timely intervention with forceps. Provided then, that this risk is constantly borne in mind, it is considered that the methods of pain relief examined in this thesis, and used with discretion, can form a basis of safe, effective, relief of pain in labour, capable of augmentation when necessary, and applicable to a large number of mothers.

- - - - -

REFERENCES

HISTORICAL SURVEY AND THE 'PILOT SURVEY' AND RELAXATION

Barach, A. L. and Rovenstine E.A. (1915) Anaesthesiology 6.449

Bourne W, (1934) Lancet 1.56

Claye A. M. (1939) "The Evolution of Obstetric Anaestheis", Oxford

DeLee J.B. and Greenhill (1947) "Principles and Practice of Obstetrics", 9th edition W.B.Saunders & Co., Philadelphia, Page 255.

Dewar J.B. and Morris W.I.C. (1947) J. Obstet. Gynaecol. B.E. Vol. 54 No. 4.

Drummond (1947) Med, Journal South Africa, Vol. XXl, No. 6 page 178.

Elam 1938 The Practitioner 111, 243

Guthrie D. 1945 "A History of Medicine" Nelson, Edinburgh Pgs. 238 302 etSeq.

Gwathmey J. T. and McCormick Co. (1935) J.Amer Med. Assoc. 105, 2044

Hingson R. A. and Edwards W. B. (1943) J. Amer, Med. Assoc. 121, 225.

Jacobson (1938) "Progressive Relaxation" 2nd Edition, Chicago

"Liturgy and Worship" (1938) Edited S.P.C.K. London Page 426.

Lull C. B. and Hingson R.A. (1945) "Control of Pain in Childbirth" 2nd Ed. Heinemann, London.

Mackey, Med. Journ. Austral 15.11.47

"Maternity in Great Britain" (1948) Oxford p. 80

Miller J. (1947) J. of Obstet. and Gynaecol. B.E. Vol.54 No. 6 Decr.

Minnett R. J. (1934) Proc. Roy. Soc. Med. 37. 45 - 8

Moir J. Chassar (1939) J. Obstet. and Gynaecol G.B. Vol.46 No.3

Read G. Dick (1946) "Revelation of Childbirth" Heinemann London P. 103

Spencer H. R. (1927) "The History of British Midwifery" J. Bale Sons and Danielson, London.

Steinberg M (1945) Amer J. Obstet. Gynaecol 50542

Sturrock J. (1939) J. Obstet and Gynaecol B. E. Vol.46 No.3

The Book of Common Prayer.

Theobald G.W. (1936) Brit. Med. Journal 2.1307

"The Times" 28.1.49.

Thomas R. C. (1949) Brit. Med. Journal 1. 323.

- - - - - - - -

PETHIDINE HYDROCHLORIDE

Barnes J. (1947) British Medical Journal 1, 437.

Batterman, R. C. (1943) Arch. Intern. Med. 71, 345.

Batterman, R. C. and Himmelsbach, C. K. (1943)
J. Amer. Med. Assoc. 122, 222

Benthin, W. (1940). Dtsch. Med. Wschr. 66, 760.

Benthin, W. (1942) Med. Klinik, 38, 342.

Carter, H. M. (1945) Wisconsin Med. J. 44, 1170

Cripps, J. A. R., Hall, B and Haultain, W.F.T. (1944)
British Medical Journal 2,498.

Duguid A.M.E. and Heathcote, R. St. A (1940) Quart.
J. Pharm. Pharmacol 13, 318.

Eiselebo and Schaumann, O. (1939) Dtsch. Med. Wschr. 65, 967.

Gallen, B. and Prescott, F. (1944) British Medical Journal
1, 176.

Gilbert, G. and Dixon, A. G., (1943) Amer. J. Obstet. Gynec.
45, 320.

Gruber, C. M. Hart, E. R., and Gruber, C. M. junr. (1941)
J. Pharmacol, 73. 319.

Hewer A. J. H. and Keele, C. A (1948) Lancet, Vol 2 No.18

Roby, C. and Schumann, W. R (1943) Amer. J. Obstet. Gynec.
45, 318

Schumann, W. R. (1944) Amer. J. Obstet. Gynec. 47, 93.

Sturrock, J. (1939) J. Obstet. Gynaec. Brit. Emp. 46,428.

Yonkman, F. F. Noth. P. H., and Mecht, H. H. (1944) Ann.
Intern. Med. 21.7

- - - -

REFERENCES (CONTINUED)

TRICHLORETHYLENE

Barns C. G. and Ives J, (1944) Proc. Soc. Med. 37, 528.

Brittain, G.J.C., (1948) Curr. Research Anaesth. & Analgesia 27, 145.

Calvert, W (1943) J. Obstet. Gynaec. B.E. 51,150

Carden S, (1944) British Medical Journal 1, 319,

Freedman, A (1943) Lancet Decr. P. 696

Gerbis, H. (1928), Zentralbl. F. Gewerbehyg 5, 97

Harsberg, M. (1934) Anaesth. and Analg, 13, 203

Helliwell, P. J. and Hutton, A. M. (1949) Anaesthesia, Vol 4, No. 1 p. 18-21

Herdman (1945) British Medical Journal 2, 689

Hewer C. L. (1941) British Medical Journal 1, 924.

Hewer C. L. (1946) British Medical Journal 2, 531.

Hunter, A, R. (1948) Canadian Med. Assoc. Journal 58,48

Hyatt, A. L. Gardener, T.H., and Alam J (1947) British Med. Journal 2, 27

Joachimoglu, G (1921) Berl, Klin. Wchnschr, 58, 147

Krantz, J. G, etal. (1935) Journ. Amer. Pharmaceut. A., 24,754.

Lande P. et Al.,(1939) Arch. d. Mal. Profess. 2,454.

Macintosh R. R. (1948) quoted in Report of R.C.O.G. on Trichlorethylene P.23

Marrett, H.R. (1942) British Medical Journal, 1, 643.

Ostlere, G (1948) British Medical Journal, 1, 195.

Plessner, W (1916) Berl. Klin Wchnschr, 53, 25.

Striker, C. et al.,(1935) Anaesth. and Analg. 14, 68

Stuber, K (1931) Arch. F. Gewerbepath, U. Gewerbehyg. 2, 398

Trumper, H. B. et al (1936) Lancet (ii) 1390.

- - - - - -

A P P E N D I X

REPORT OF

THE LUCY BALDWIN MATERNITY HOSPITAL

STOURPORT-ON-SEVERN

WORCESTERSHIRE

1948

REPORT OF

THE LUCY BALDWIN MATERNITY HOSPITAL

STOURPORT-ON-SEVERN

WORCESTERSHIRE

1948

1948

In January 1948 the Hospital consisted of 18 beds, a new 4-bed Ward was opened in July and at the same time a single-bed ward was converted into a ward for premature infants, so that from July the hospital has had 21 beds.

In October oxygen-tent apparatus was first used in the premature ward.

Staffing shortages prevented fuller utilisation of extra beds. Bookings were restricted as in 1947.

First stage sedation was more fully employed than in 1947 and Trilene was used, where possible, in place of Gas and Air at first with Freedman's Bottle, but since June with the Siebe-Gorman Apparatus.

During the year post-partum losses have been carefully measured. A Laboratory Technician has attended weekly ante-natal clinic since September doing Blood Counts, W.R., Group and R.h. Factor on all patients at first attendance.

Total Admissions	390	Booked	350
		Emergency	40

of whom 9 were discharged and delivered elsewhere.

Total Deliveries	381	Primipara 216 Multipara 165	i.e., 56.7% Primipara
Maternal Deaths -	0		
Children Born	387	including 6 cases of twins	
Live Births	379		
Still Births	8	S.B. rate per 1,000 live Births 20.67%	
Neo-Natal Deaths	7	Combined SB, NND rate/1000 38.76%	

Morbidity 7 cases (M. of H. Standard) 1.84%

P.P.H. Cases 25, 6.56%

Forceps Cases nil

Caesarean Section 4 Cases - 1.03%

- - - - - - - - -

MULTIPLE PREGNANCY - 1948

There were six twin pregnancies, 3 in Primigravida, 3 in multigravida. Mothers and babies all did well except the very premature twins of case 37.2, a toxic multigravida emergency admission, both twins still-born, macerated.

ABNORMAL PRESENTATIONS

Persistent Occipito - Posterior - nine cases during the year.

Case No.	Age	Grav.	Mat.	First Stage hrs. min	Second Stage hrs.mins	Method of delivery	Sedation	Result M.	Result C.	Weight of child lbs.	Weight of child ozs.	Remarks
1) 22.7	18	1	39	6 40	1 5	Spontaneous	Peth.100 mgms 3¾ hrs a.n.	A	A	6	5	Mrs.L.K.S. Dr. H.
2) 25.2	17	1	40	14	50	"	Nil	A	A	7	5	Mrs. B.B.
3) 29.6	22	2	40	9 45	35	"	Trilene Peth.2 hrs a.n.	A	A	9	5	Mrs. R.L.
4) 33.8	32	3	38	9 25	40	"	Nil	A	A	8	8	Mrs. L.
5) 45.10	22	1	40			"	Peth.300 mgms last dose 6 hrs a.n. Trilene	A	A	6	5	Mrs. R.
6) 47.7	28	3	42	6 30	25	"	Nil	A	A	8	1	Mrs. F.
7) 50.1	26	2	40	6 10	1 5	"	Peth.100 mgms 3 hrs a.n. Trilene 1 hr.	A	A	8	7½	Mrs. P.
8) 3.10	23	1	38			"	Nil	A	A	7	2	Mrs. O.
9) 8.7	22	1	37	20½	4	"	Peth.300 mgms last 10 hrs a.n.	A	A	6	13	Mrs. B

All 9 cases delivered themselves spontaneously. Case 8.7 had a P.P.H. of 20 ozs. and a third degree tear which healed satisfactorily.

There was one multiple presentation - Breech and hand Case No.6.9 (q.v. Breech)

DURING 1948 THERE WAS NO FORCEPS DELIVERY OF A VERTEX CASE, and Pitocin was used in the 2nd stage in 7 cases only in doses of ·25 cc rarely repeated.

B R E E C H - 1948

There were 15 Breech deliveries in 1948. 10 in Primigravida, 5 in Multigravida. Four Babies were lost, 3 very premature - corrected Foetal Mortality 6.6%

Details of Abnormal Cases

Case No.	Age	Grav.	Mat.	Method of Delivery	Weight lbs.	ozs.	Sedation	Result M.	C.	Remarks
1)27.9	30	5	39	Spontaneous Twin delivery						
				1st. L.S.A.	7	12	Nil	A	A	Mrs. M. P.P.H. of 50 ozs. Without apparent ill effect. Discharged home 10th day
				2nd L.S.P.	9	3	Nil		A	
2)34.3	28	1	40	Extraction under Gen. Anes.	6	8½	Peth.100 mgms 5 hrs a.n. N_2O, O_2 & Ether	A	A	Mrs. E. J. (Dr. H.H's case)
3)37.2	35	2	35	Spont. 2nd Twin			Nil	A	SB	Mrs.E.S. Toxic Twin Pregnancy Both SB and macerated.
4)37.4	17	1	28	Midwife assisted.	2	7½	Nil	A	NND	Mrs. Z. Pre-eclampsia
5)42.2	22	1	40	Episiotomy Forceps to Head	6	8¾	Peth.5 hrs a.n. Gas Air. Trilene	A	A	Mrs.E. P.A.Version not attempted Dr.D.

Continued

Case No.	Age	Grav.	Mat.	Method of Delivery	Weight lbs. ozs.	Sedation	Result M.	Result C.	Remarks
6)6.9	37	2 (1st Caesar:)	40	Extraction under Gen. Anaest.	8 10	Peth. 200 mgms last 5 hes a.n. Gas & Air N_2O, O_2 & Ether	A	SB	Mrs.N.P. Hand presentation + Breech
7)9.6	33	1	38	Midwife assisted	2 12	Peth. 100 mgms Pot Brom. & Chlor:	A	SB Macerated	Mrs.E.B. (See Still-births)

Primigravida Breech Cases

10 Cases. 8 safely delivered

NO full-term infant lost in delivery

2 very premature infants lost, 1 SB
1 NND

Multigravida Breech Cases

5 cases 3 safely delivered

1 full term infant lost in delivery

1 Toxic Twin very premature stillborn macerated.

2 cases were difficult extractions under general anaesthesia

ANTE PARTUM HAEMORRHAGE - 1948

There were 10 cases admitted in 1948. Six were mild and had no obstetric treatment, two mild cases were emergency admissions. Of the four severe cases, one was due to Placenta Praevia (Type III), one due to Vasa Praevia, and two were due to accidental haemorrhage. Two of the four severe cases were emergency admissions.

Details of the 4 severe cases

Case No.	Age	Grav-ida	Mat. at Delivery	Nature of Haemorrhage	Treatment	Result M.	Result C	Remarks
1)25.6	18	1	40	20 oz. in labour at ½ dilatation	A.R.M.	A	A	Mrs. B. Mother had infant asphyx, but responded. Macrocytic anaemia of Preg. Early SEPARATION PLACENTA.
E 2)31.10	34	3	38	30 oz. before admission	L.S.C.S	A	A	Mrs. M. Placenta Praevia Type III
3)9.4	20	1	41	Steady loss for few minutes on spontaneous rupture of membranes at full dilatation	Delivery hastened by Episiot & Fundal pressure	A	SB	Mrs. J. S. Placenta Bipartite and battle — DORE MAIN vessel running in membrane rupture at tear in membranes VASA PRAEVIA
E 4)10.9	23	2	33	20 oz. prior to admission, clots since	A.R.M. Willetts Forceps to head	A	NND	Mrs. B. Baby premature

POST - PARTUM HAEMORRHAGE - 1948

In 381 deliveries, 25 cases, no mother died, no blood transfusions or other intravenous therapy except Ergometrine used.
14 had Pethidine, Case 19 had a notifiable Pyrexia. Incidence 6.56%

Case No.	Age	Grav.	Mat.	Method of Delivery	Duration of labour hrs.	min.	Weight of child. lbs.	oz.	Cause	Amount of loss ozs.	Treatment	Sedation	Result M.	C.	Remarks
1)28.4	32	5	39	Normal	5	15	8	1	Atony	40	Ecbolics	Nil	A	A	Mrs. S.
2)29.9	20	2	41	Normal	7		7	11	"	40	"	"	A	A	Mrs. B. Hyperpiesia
3)23.8	27	1	40	Normal	6	40	7	11¼	"	40	"	"	A	A	Mrs. K.
4)22.3	22	1	38	Normal	15	15	6	13	"	40	"	Peth.100 mgms 2½ hrs a.n.	A	A	Mrs. M.B.
5) 4.2	32	1	41	Normal	12	40	8	9	"	40 1hr P.N	"	Peth.100 mgms 5 hrs a.n.	A	A	Mrs. M
6)40.3	32	1	39	Normal	25	45	7	4	"	40	"	Peth.200 mgms last 7½ hrs an	A	A	Mrs. W.
7)41.8	25	2	36	Slight A.P.H. Normal	4		6		"	60	"	Peth.100 3 hrs a.n.	A	NND	Mrs.J.L.
8)42.1	24	2	40	Normal	12	10	9		"	40	"	Nil	A	A	Mrs. C.
9)48.10	22	2	40	Normal	6	5	7	13	"	40	Ecbolics Rectal Saline	Nil	A	A	Mrs. C.
10)50.6	27	1	41	Normal	20	10	9	8	"	40	Ecbolics	Peth.100 mgms 1 hr 10 m.a.n.	A	A	Mrs. E.D.

POST-PARTUM HAEMORRHAGE - 1948 (CONTINUED)

Case No.	Age	Grav.	Mat.	Method of Delivery	Duration of labour hrs. min.	Weight of child lbs. ozs	Cause	Amount of loss ozs.	Treatment	Sedation	Result M.	Result C.	Remarks
11) 2.6	24	1	41	Normal	19 10	9	50% 3 wks a.n. 43% 6 days P.N	60	Ecbolics "	Nil	A	A	Mrs. I.
12) 8.10	23	1	41	Normal	21 35	6 10	Placenta retained 1 hr. 5 min.	55	Saline to Cord	Peth. 200 mgms last 100 3 hrs a.n.	A	A	Mrs. R.
13) 9.10	20	1	39	Normal	66		Plac. retained 1hr	40	Ecbolics	Peth 100 mgms 2½ days a.n.	A	SB	Mrs. W.G
14) 9.8	23	1	41	Normal D-Smyth 1 wk a.n	22	8	Atony	40	"	Peth. 250 mgms last dose 50 mgms given 4hr 50 min. a.n. Trilene	A	A	Mrs. T.
15) 10.2	26	1	38	Pyelitis Normal	14	6 6½	"	36	"	Trilene only	A	A	Mrs. H.
16) 29.9	30	5	39	Normal Twins	1 50	7 12 9 3	"	50	"	Nil	A	A A	Mrs. M.
17) 1.7	24	2	40	Normal	16 55	7 5	"	30	"	Nil	A	A	Mrs. E

POST-PARTUM HAEMORRHAGE - 1943 (CONTINUED)

Case No.	Age	Grav.	Mat.	Method of Delivery	Duration of labour hrs.	min.	Weight of child lbs.	oz.	Cause	Amount of loss ozs.	Treatment	Sedation	Result M.	C.	Remarks
18)1.1	28	1	41½	Normal	46	45			Hb.45% 3 days later.	20 +	Manual removal Ecbolics Rectal saline	Peth 300 mgms last 15 hrs a.n.	A	SB	Mrs.H.
19)3.8	29	1	40	Normal	20	30	8	10	Retained Products Hb 45% 2 days an.	26	Manual removal 14th day	Peth.100 5 hrs an.	A	A	Mrs.R. Morbid Puer.
20)37.7	24	2	40	Normal	9	45	7	12	Atony	24	Ecbolics	Nil	A	A	Mrs.P. + 11t day
21)35.9	32	2	40	Normal	6	10	8	7½	"	24	"	Nil	A	A	Mrs. W.
22)38.6	35	3	39	High B.P Normal		50	8		"	25	"	Peth.100 mgms 20 min. a.n.	A	A	Mrs. B.
23)39.8	25	1	37	Normal	36		3	10	"	25	"	Peth.100 mgms 13 hrs a.n.	A	A	Mrs. S. T.
24)46.1	42	7	40	Normal	4		8	13	"	26	"	Peth.100 1 hr 15 min. a.n.	A	A	Mrs. D.J.
25)7.9	36	2	40	Normal	24	45	10	8	"	24	"	Peth.150 mgms Seconal both 15hrs a.n	A	A	Mrs. C.

THE FOLLOWING CASES HAD A FREE LOSS OF 20 OUNCES

1948

Case No.	Age	Grav.	Mat.	LABOUR	Duration of labour. hrs. mins.	Weight of child. lbs. ozs.	Treatment	Sedation.	Result M. C.	Remarks
1)25.7	41	1	39	Normal	12 15	8 8	Ecbolics	Peth.100 mgms 4 hrs a.n.	A A	Mrs. A.
2)31.5	29	2	40	Normal	10	7 12	Ecbolics	Peth.100 mgms 3 hrs a.n. Trilene	A A	Mrs. B.
3)36.8	25	1	40	Normal	27	7 12	Ecbolics	Peth.100 mgms 1½ hrs a.n.	A A	Mrs. F.
4)42.7	27	1	40	Pitocin 2nd St. Normal	21 15	7 6½	Ecbolics	Nil	A A	Mrs. O.S.
5)48.7	40	7	40	Normal	4	8 8	Ecbolics	Nil	A A	Mrs. H.
6) 2.10	24	1	41	Normal	12	7 15	Ecbolics	Peth.200 mgms last 4 hrs a.n. Trilene	A A	Mrs. B.
7) 8.7	22	1	38	Spont. P.O.P.	20	6 13	Ecbolics	Peth.300 mgms last 10 hrs a.n.	A A	Mrs. B.
8) 11.3	20	1	41	Normal	20	7 8	Ecbolics	Peth.100 mgms 10 hrs a.n. Trilene 2 hrs 30m.	A A	Mrs. H.
9) 2.9	25	1	40	Post Ecl-amp. fit Normal	6	7 3½	Ecbolics	Peth.3½ hrs a.n.	A A	Mrs.O.P.
10)5.7	22	1	40	Normal	7½	7 5	Ecbolics	Pot Brom.gr.30 5 hrs a.n.	A A	Mrs.J.K.

THE FOLLOWING CASES HAD A FREE LOSS OF 20 OUNCES (CONTINUED)

1948

Case No	Age	Grav.	Matur.	Labour	Duration of Labour Hrs.	mins.	Weight of child lbs.	ozs.	Treatment	Sedation	Result M.	C.	Remarks
11)28.1	28	2	39	Normal	6	25	9	2	Ecbolics	Peth.100 mgms 1 hr 50 min.a.n.	A	A	Mrs. V.P.
12)22.4	27	1	40	Normal	26		7	11	Ecbolics	Peth.200 mgms last 100 4¾ hrs a.n	A	A	Mrs. H.
13) 5.8	21	1	40	Normal	12	15	8		Ecbolics	Peth.100	A	A	Mrs. O.
14)48.5	21	1	40	Normal	25		9	9	Ecbolics	Peth.200 mgms last 7 hrs a.n. Trilene 40 mins.	A	A	Mrs. M. W.
15) 1.5	33	4	40	Normal	11	15	8	11	Ecbolics	Peth,200 mgms last 2 hrs 15 min. a.n.	A	A	Mrs. B.
16) 49.10	30	3	38	Normal	4	40	6	1½	Ecbolics	Peth.100, 55 mins a.n.Trilene	A	A	Mrs.F.
17) 9.7	29	5	39	Normal	5	45	8		Ecbolics	Pot.Brom. & Chlor. a.n. gr.XV 25 mins a.n.	A	A	Mrs.M.

42 Mothers or 11% of 381 Mothers delivered had a loss of 20 ounces or more.

25 cases had a loss greater than 20 ounces

17 cases had a loss amounting to 20 ounces

CAESAREAN SECTION - 1948

There were 4 cases during 1948. 3 were planned for disproportion with patients not in labour, 1 patient early in labour had a type III Placenta Praevia.

Case No.	Age	Grav-ida	Mat.	Indication	Weight of child lbs. oz.	Result M.	Result C.	Type of operation	Remarks.
E1)43.1	42	1	41	Toxaemia Elderly P. Free Head	8 7	A	A	Classical	M. L. Mr. C.
2)23.9	37	2	39	Dispropn. 2nd. Caesar	7 4½	A	A	Classical + repairs of abdom.wall + sterilisation.	Mrs. H. Mr. C.
3)29.1	25	2	40	Dispropn. 2nd Caesar.	7 1	A	A	Classical	Mrs. P. Mr. C.
4)31.10	34	3	38	Placenta P. Type III	6 11½	A	A	Lower Seg. C.S.	Mrs. M. Mr. D. Mother Rh-ve + Baby Rh+ve Antibodies + Baby transferred to C.H.B. Had transfusion & has survived. Baby's Hb went down to 55%

MORBIDITY - 1948

CASE NO.	AGE	Grav.	Mat.	CAUSE	Post-Natal stay in Hosp.	Sedation	Result M.	Result C.	Remarks
1)22.7	31	1	40	Haemolytic Strept.	12 days	Peth.100 mgms 9 hrs a.n.	A	A	Mrs. S. 42 hrs labour. Drew-Smyth induction for Dispro: 3 days before.
2)43.6	26	1	39	Not ascert-ained	17 "	KBr & Chloral	A	A	Mrs. M. S. Toxaemia Anaemia.
3) 2.8	29	1	40	Not ascert-ained	16 "	Peth.100 mgms	A	A	Mrs.M.R. P.P.H. 26 ozs. Retained Cotyledon.
4) 3.2	18	1	40		15 "	Peth.100 mgms	A	A	Mrs.D.
5) 5.2	28	1	40	Not ascert-ained	12 "	Peth. 100 mgms Trilene	A	A	Mrs. G.
6) 6.10	37	6	34	T.B.	9 "	Peth.100 mgms	A	A	Mrs. W. (Active from Sanatorium)
7)47.10	20	1	38	Not ascert-ained	23 "	Peth.400 mgms Seconal 1½ gr. Morph. gr.¼ Marked Inertia	A	A A	Mrs.J.W. Twins Drew-Smyth Induction Tox.

PAEDIATRIC REPORT - 1948

During the year there were eight still-births - S.B. rate /1000 Live births 20.67

Case No.	Age	Mother Grav.	Mat.	Cause	Weight of child	Sedation	Remarks
1) 37.2	35	2	35	Toxaemia Foetal Accites	6lbs 8 oz.	Peth.100 mgms 50 mins. a.n.	Mrs. E.S. Mother RH + Vertex 1st Twin Tox. macerated.
2) 37.2	35	2	35	Toxaemia ?Malform	4 8	"	Breech 2nd twin Macerated.
3) 1.1	28	1	41½	?	7 14	Peth.300 mgms last dose 15 hrs a.n.	Mrs. H. Retained Placenta Manual removal, beginning to macerate.
4) 4.10	29	1	?40	Mother Rh-ve	8 0	Peth. 100 mgms 2 hrs 35 m. a.n.	Mrs. R. Macerated. Normal delivery. F.H. not heard on admission.
5) 6.9	37	2 (prev. caesar)	40	Asphyxia	8 10	Peth. 200 mgms last 6 hrs a.n. N_2O. O_2 & E for dely	Mrs. N.P. Breech and hand presentation. Difficult breech extraction.
6) 9.6	33	1	28	Not known. Mother Rh-ve No anaemia WR & Mein-ve No ev. of Toxaemia Infant macerated. FHNH 6 hrs a.n. History of threatened miscarriage	2 12	Peth. 100 mgms. last 10 hrs a.n. Pot Brom. & Chlor. 1 aa gr 30 in 2 doses of aa gr xv last 2 hrs 55 m.	Mrs. E. B. APH twice during pregnancy. Breech with extended legs. Inertia during 2nd stage.

Case No.	Age	Mother Grav.	Mat.	Cause	Weight of child. lbs. ozs.	Sedation	Remarks
) 9.7	20	1	40	Asphyxia due to Vasa Praevia. Mes	6	Peth.100 mgms. 4 hrs 25 min. an.	Mrs.J.S. Vasa Praevia with small A.P.H. Placenta Battle-Dore Bipartite
) 9.10	20	1	40	Foetal Ascites. Oedema of face, limbs and body.	7 4	Peth.100 mgms 2nd day of labour, 2 days before birth of baby. Very marked Uterine inertia in 1st. stage. Foetal heart not heard for last $5\frac{1}{2}$ hrs of labour.	Mrs. W. G. Retained placenta 1 hr. P.P.H. 40 ozs. Rh positive Blood count normal.

NEO-NATAL DEATHS - 1948

During the year there were 7 neo-natal deaths. Combined SB, NND rate 38.76 per 1000 live births

Case No. 6	Age	Mother Grav.	Matur.	Time of death	Cause	Weight of child	Sedation	Remarks
1)23.5	26	2	36	15 hours	No evidence of raised B.P. or Albumen, Prematurity +? Toxaemia from Maternal Respiratory infection.	3lbs 8 oz.	Nil	Mrs. I. H. Acute Maternal respiratory Infection, Pneumonia given Pencillin
2)34.8	41	2	37½	9 days	Subdural Haemorrhage, presumably due to diff. delivery (Spontaneous) Caput ++ moulding ++. Episiot & Fundal pressure. Infant also congenital heart p.m.	7 ½	Peth.100 mgms. 5 hrs a.n. Trilene 30 mins. between pains Infant cried well at birth.	Mrs. V.G. Flg. induction of Prem. labour for v. diff. 1st forceps delivery 2 hrs 2nd. stage See Forceps 1944
3)37.4	17½	1	28	2 days	Toxaemia Prematurity	2 7½	nil	Mrs. Z. Pre-eclampsia Breech

16

NEO-NATAL DEATHS - 1948 (CONTINUED)

Case No.	Age	Mother Grav.	Matur.	Time of Death.	Cause	Weight of child. lbs. ozs.	Sedation	Remarks
4)41.8	25	2	38	50 mins.	Severe Spina Bifida	6 -	Peth. 100 mgms 3 hrs a.n. Pot Bron & Chloral aa grs x 15 hrs a.n.	Mrs. J.L. A.P.H Mild.
5) 2.2	24	1	41	25 mins.	?Shock ?Asphyxia 1hr 20 min. in 2nd stage. An easy dely	7 6	Peth. 500 mgms last 5 hrs 40 min. a.n. Seconal gr. 1½ 5 hrs 40 a.n.	Mrs. A.P. 29½ hrs labour. Normal dely with Episiotomy
6) 2.7	18	1	40	11 hrs	Severe Spina Bifida	6 14	nil	Mrs.J.M.
E7)10.9	23	2	33	8¼ hrs	Toxaemia-Prem.	3 8	Peth. 100 mgms 2¾ hrs a.n.	Mrs. P.B. A.P.H. Large Retro-Placental Clot. Willetts Forceps.

ASPHYXIA NEONATORUM - 1948
i.e., delay in the establishment of satisfactory respiration

There were 22 cases in 387 children born, an incidence of 5.7%.
One child died after 25 minutes (Case 9) 17 cases had had pethédine in 228 mothers receiving it, an incidence of 7.4%

Case No.	Age	Grav.	Mat.	Pegn-ancy	Labour	Sedation	Weight of child lbs. oz.	Special Treatment	Result	Remarks
1)25.4	23	1	?41	Normal	Normal	Peth.100 1hr.35 a.n.	5 $6\frac{3}{4}$	nil	A	Mrs.N.J. (White)
2)25.6	18	1	40	Anaemia Macrocyt	A.P.H. 20 oz. 1st.St	Peth.200 last 2hrs.55 min.a.n.	7	Coramine Oxygen	A	Mrs. B.B Shocked.
3)37.3	21	2	41	D.S. Induct.	Cord Twice	Peth.100 16 hrs a.n	5 14	Coramine	A	Mrs.A.B. (Blue)
4)38.3	24	1	40	Normal	Rapid	Nil	8 2	nil	A	Mrs. Y. (Blue)
5)38.1	20	1	40	Normal	Rapid Cord once	Nil	8 11	nil	A	Mrs.J.W. (Blue)
6)39.1	15	1	38	Normal	Cord	Peth.100 3 hrs a.n.	6 $5\frac{1}{2}$	Lobeline Oxygen	A	Mrs.I.B.(White)
7)42.2	22	1	40	Normal	Breech Forceps	Peth.100 5 hrs a.n. Gas,air and Trilene	6 $8\frac{3}{4}$	Coramine	A	Mrs. E. (White)
8)49.1	22	1	40	Normal	Assist. Breech	Gas - air only	6 9	nil	A	Mrs. H (White)
9) 2.2	24	1	39	Tox.	Hysteria	Peth. 500 Seconal	7 6	Coramine,Lobeline CO_2 O_2	NND 25 min.	Mrs. A.P. (White)
10)2.3	38	2	41	Normal	Assist Breech	Peth.100 $2\frac{1}{2}$ hrs a.n.	5 12	Coramine	A	Mrs. A.(White)
11)2.10	24	1	40	Anaemia	P.O.P.	Peth.200 Trilene	7 15	Coramine CO_2	A	Mrs. B. (White)

81

Case No.	Age	Grav.	Mat.	Pegn-ancy	Labour	Sedation	Weight of child lbs.	ozs.	Special Treatment	Result	Remarks
12)5.3	20	1	41	D.S. Induct.	Long 2nd Stg.	Peth 200 Trilene	7	14	Nil	A	Mrs. D (White)
13)8.1	25	1	41	Tox.	Rapid	Peth.100 3hrs 20m a.n. Trilene	6	8	Coramine into Cord & Heart CO_2 & O_2 BATH	A	Mrs. B (White)
14)8.5	24	1	37	Normal	Foetal Heart 98	Peth. 100 11 hrs a.n. Trilene	6	5	Coramine O_2& CO_2	A	Mrs. P(Blue)
15)10.7	21	1	40	Normal	Rapid	Peth. 100 2hrs 40 a.n.	6	$10\frac{1}{2}$	Coramine O_2& CO_2	A	Mrs. C(Blue)
16)	20	2	41	Normal	Normal	Nil	7	11	Nil	A	Mrs. B. (Blue)
17)26.7	26	1	38	Tox. Induct.	P.O.P.	Peth. 100 5 hrs an. Trilene	5	$14\frac{1}{2}$	Coramine $\frac{1}{4}$ Oxygen	A	Mrs. C (White)
18)33.4	23	1	40	Normal	Inertia	Peth 100 5 hrs a.n.	8	4	Coramine $\frac{1}{2}$ cc	A	Mrs. D(White)
19)34.3	28	1	40	Normal	Breech Assist.	Gas & air	6	$8\frac{1}{2}$	nil	A	Mrs.E.J.(White)
20)1.8	37	2	41	Normal	Normal	Peth 100 2 hrs a.n.	8	3	nil	A	Mrs.T. (Blue)
21)4.4	23	1	40	Normal	Normal	Peth.200 last 100 3 hrs a.n.	6	13	CO_2 & O_2	A	Mrs.J.H.(Blue)
22)28.6	24	1	42	Heart	Normal Hard push	Peth.100 9 hrs a.n. Trilene	9	5	O_2	A	Mrs. P. (Blue)

EMERGENCY CASES - 1948

The following emergency cases were admitted during 1948 - Total 40.

Eclampsia	2 cases
Prolonged Labour	2 cases
Breech with Inertia in 1st stage.	1 case
Breech for version at 37th week.	1 case
Ante-Partum Haemorrhage -	
(Placenta Praevia, Type III)	1 case
	4 other cases
Toxaemia of Pregnancy	11 cases
Suspected Disproportion not in labour	6 cases
Heart Failure	1 case
Severe Anaemia	1 case
Pyelitis	1 case
Hyperemesis	1 case
Tuberculosis	2 cases
To relieve neighbouring Nursing Homes	6 cases

- - - - - - -

In 1944 the hospital consisted of 18 beds. Most patients received ante-natal supervision at the weekly hospital, out-patient clinic or at the various County Council Clinics or from their own Doctor. During the year there were 19 Emergency Admissions.

Total Admissions	401	Booked 382 Emergency 19 12 were discharged undelivered and 3 miscarriages occurred.
Total Deliveries (excluding miscarriages)	386	Primigravida 189) i.e., 48.9% Primigravida Multigravida 197)
Maternal Death	1	Maternal Mortality Rate .249%
Children Born	392	(including 6 cases of twins, but excluding 3 miscarriages)
Live Births	380	
Still Births	12	giving a Still-birth rate of 30.6 per 1000 Live Births.
Neo Natal Deaths	11	giving a combined SB & NND rate of 58.7 per 1000 Live Births
Morbidity	5	cases of Notifiable Pyrexia + 1 Maternal Death (M.o.H Standard) giving a Morbidity Rate of 1.55%

- - - - -

F O R C E P S - 1944

12 Cases, one mother failed forceps and subsequent Lower Segment Caesarean died, two babies still-born.

FORCEPS RATE 3.1%

Case	Age	Gravida	Maturity	Indication	Any Pelvic Abnormality	Duration of Labour 1st St. hrs min	Duration of Labour 2nd St. hrs min	Weight lbs.	Weight ozs.	M	C	Result	1st. St. Sedation	Remarks
312	27	1	40	P. O. P. M & F Distress		18	2 40	8	4	A	A		Pethidine 50 by mth 6 hr am rotation	Mrs. J.S. Dr. P
316	37	1	40	F. Distress	Outlet Contrn.	68.15	4 30	7	7	A	A		K Br & C 30 1st night OA " " 2nd night " " 25 3 hr 15 m. am Gas and Air	Mrs. V.G. (SEE 1948 N.H.D)
324	30	1	39	Prolapse Cord		10	1 40	6		A	SB		nil	Mrs. I.S.
334	42	1	37	D.T.A.		24	2 14	8		D	SB		Seconalcaps 2 chloral 30 4.45 day of delivery failed forceps. Morphia g $\frac{1}{4}$ 11.40 p.m.	Mrs. S. followed by L.S.C. by J.S.L.C.
)359	31	1	40	F.Distress		48	2 15	6	14½	A	A		K Br & C 30 Seconal 1 Tab OS Peth. 50 per O S Peth. 50 " " 12 hrs am.	Mrs. H.P. Dr. N.
)361	33	2	39	F.Distress		16.40	2 10	6	6	A	A		Seconal gr. 1½	Mrs. G 2nd Forceps
)364	36	1	42	F.Distress		17.45	4 30	6	14	A	A		K Br & Chloral twice	Mrs. E.P.

F O R C E P S 1944 (Continued)

Case	Age	Gravida	Maturity	Indication	Any Pelvic Abnormality	Duration Of Labour		Weight		M C		1st. St. Sedation	Remarks
						1st St. hrsmins	2nd St hrsmins	lbs.	ozs	Result			
)386		1	40	F. Distress		11	2 35	8	10½	A	A	K Br & Chloral Pethidine 50 mgms by mth	Mrs. C.
)425	32	1	40	P.O.P. F. Distress		48	2	7	11	A	A	K Br & C. 30 26th, 30 27th Forceps a.m. p.m. (rotation)	Mrs. J. Case notes gone.
)446	23	2	38	M. Distress		48	3 15	5	9	A	A	K Br & C. 30	Mrs. L. 1st Caes
)479	31	1	39	P. O. P. M & F. Distress		16	5 55	7	9	A	A	nil	Mrs. I. Not rotated. Head on perineo
)3.2	27	1		P. O. P. M & F. Distress		8 10	2 45	8	5	A	A	Seconal gr.1½ Peth. 50 mgms by mouth Seconal & Peth rep. 50 & 1½	Mrs. S. L. Rotation.

CAESAREAN SECTIONS - 1944

12 Cases. Occurrence 3.1%. 3 cases advanced in labour. 3 cases for Placenta Praevia. One mother died, one baby stillborn one neo natal death

Case No.	Age	Grav-ida	Matur-ity	Indication	Weight of child lbs.	ozs.	Result M.	C.	Type of operation.	Remarks
20.6	32	3 1 forc: 1 C.S.	40	Dispn.	7	7	A	A	Classical 2nd. not in labour sterilisation.	Mrs. E.P. J.S.M.C.
21.9	39	2 1 C.S		Dispn.	6	3	A	A	Classical, not in labour.	Mrs. D. S Mrs. B. L.
22.7	41	1	40	Outlet Contrn. Arthr: hip	5	6	A	A	Classical. Not in labour.	Mrs. M. H. J.S.M.C.
24.9	35	2 1st.	37	Placenta Praevia	6	1	A	A	Classical. Not in labour	Mrs. W. J.S.M.C. Blood transfusion just before Operation.
33.4	42	1	37	D.T.A. Failed forceps. Surg. Ind.	8	-	D	SB	Lower Segment F.D. 14 hrs	Mrs. N. J.S.M.C. Died 4th day Peritonitis.
33.7	38	2 1st C.S	40	Dispn.	6	6	A	A	Classical. Not in labour	Mrs. R. J.S.M.C.
35.10	30	1	40	Dispn.	8		A	A	Classical. Not in labour	Mrs. C. J. J.S.M.C.
38.1	30	1	40	Dispn.	8	9	A	A	Classical. 43½ hrs in labour. Membr. ruptured 17½ hrs.	Mrs. A. S. Chloral twice gr.60. Seconal once gr iii. Peth. once 50 by mouth.

CAESAREAN SECTIONS - 1944 (CONTINUED)

Case	Age	Gravida	Maturity	Indication	Weight of child lbs.	Weight of child ozs	Result M	Result C	Type of operation	Remarks
46.6	22	1	40	Dispn. Tube induction under G.A	6	15½	A	A	Classical 43 hrs in first stage Membr. intact	Mrs. M. L. 27th. 1st night 28th 2nd night Morph. gr ¼ 29th nil except G.A
49.2	33	1	37	Placenta Praevia, Type II.	6	6½	A	A	Classical Membranes ruptured under G.A. 13½ hrs previously Placenta Praevia Type II	Mrs.R. M. Mrs. L. Wound broke down 9th day Sent B.G.H. for repair Readmitted here later.
49.6	28	1	35	Placenta P. Type II	4		A	NND 4 lbs	Classical. Early in labour.	Mrs. M. Mrs. T. Transfusion 2 pts. Morph. gr ¼ 4½ hrs. Severe A.P.H. gr. ⅙ 2 hrs 5 mins. a.n.
2.9	30	1	40	Dispn.	7	8	A	A	Classical. Not in labour	Mrs. B. Mr. C.

POST PARTUM HAEMORRHAGE - 1944

9 Cases. No maternal death. Percentage occurrence 2.3%

Case	Age	Gravida	Mat.	Method of Delivery	Duration of Labour hrs.	Duration of Labour mins.	Cause	Sedation	Treatment	Amt. of Loss	M. C. Result	Remarks
16.2	24	1 (+2 m)	40	Normal (P.O.P)	14	-		Seconal griii K Br & Chloral	Ecbolics	20ozs.	A A	Mrs. F. 9th Da
17.3	34	1	39	Normal	13	10			Ecbolics	30 ozs	A A	Mrs. B.J. T.B
346	33	2	40	Normal	7	10			Ecbolics I U Glyerine		A A	Mrs. M.C 11th Day
37.10	20	1	40	Normal	3				Ecbolics	30 ozs	A A	Mrs. H.
42.1	27	1	40	Normal	50			Seconal 4½ grs K Br & Ch 60 grs Morph. ¼ gr. Peth. 50 by mouth	Ecbolics	20 ozs	A A	Mrs. D. 2 hrs after delivery
43.4	29	1	36	Normal					Manual Removal.	20 ozs	A SB	Mrs. P. Hydramnios Emergency - ca papers absent
48.1	19	1	40	Normal	15	10			Ecbolics	40 ozs	A A	Mrs. B. APH
49.9	31	2	37	Normal	10	30			Ecbolics	20 ozs	A A	Mrs. C.
1.3	41	5	40	Normal					Ecbolics	40 ozs	A A	Mrs. B. High B.P. Case notes absent

MORBIDITY - 1944

There were in 1944 5 cases of Purpural Pyrexia (M. of H. Standard), and one maternal death giving a Morbidity Rate of 1.55%

Case No.	Age	Gravida.	Maturity	Cause	Post Natal Stay in Hosp.	Result M.	C.	Remarks
20.10	39	1	40	Sepsis	9 days. Transf. W.R.I.	A	A	Mrs. E. H. Mild case, subsequently did well 52½ hrs in labour. Peth. 50 mgms by mouth 3 times.
18.2	30	5	40	Resp. Infection	13 days	A	A	Mrs. K. W. A bad 'cold'.
22.10	36	4	32	Pancreatitis	14 days. Transf. to B.G.H.	A	NND	Mrs. M. Acute Pancreatitis Complic Pregnancy.
36.3	27	1	40	Breast Flush. 24 hrs only	15 days	A	A	Mrs. C. No abscess
42.3	24	3	40	Sepsis	14 days	A	A	Mrs. M. H.

MATERNAL DEATH - 1944

Case No.	Age	Gravida	Maturity	Admitted	Delivered	Died	Cause	Remarks
33.4	42	1	37	29.6.44	10.7.44	14.7.44	Peritonitis	Mrs. S. Lower Segment & C.S. after failed forceps. Elderly Primigrav. with Cancer of Breast removed 10 weeks before onset of labour. Bad head fitting. Tube induction under G.A. on 7.7.44. First stage 24 hrs, rapid towards end up to full dilatation at 6.50 p.m. 9.7.44. No advance after 1 hrs 50 mi Second stage 9 pm. forceps failed c.m. 10 p.m. forceps failed R.S.M. Morphia gr ¼ at 11 p.m. Fair night. Forceps failed at 7.30 a.m. F.H.H. Seen by J.S.M.C. 10 a.m. Lower Seg. C.S. Infant 8 lbs. heart beating but no attempt to breathe S.B. Mother fair only for 24 hrs, then rapid development of Peritonitis & death 4th day.

STILL - BIRTHS - 1944

Case No.	Age	Gravida	Maturity	Cause	Weight of child. lbs.	ozs.	Sedation	Remarks.
16.3	20	1	32	Toxaemia	4	2	K Br & Chloral grs.xxx 9½ hrs a.n. Seconal gr. 1½ 1 hr 15 mins. a.n.	Mrs. K.J. Severe Pre Eclampsia
16.10	31	2	29	Prem. 2nd of Twins	2	3	nil	Mrs. R.
18.5	29	2	29	Toxaemia	2		nil	Mrs. R. Severe Toxaemia. Surgical Induction
28.10	21	1	40	Asphyxia	9	6	Peth. 50 + 50 os 8½ hrs a.m. Seconal grs iii 5 hrs a.m.	Mrs. B. Cord twice round neck. Difficulty with shoulders.
30.6	22	1	32	Anencephaly	2	10½	nil	Mrs. E. Normal breach delivery with hydramnios.
32.4	30	1	40	Asphyxia Prolapse of Cord	6		G.A. for Emergency Forceps Heart beating at birth, No attempt at breathing.	Mrs. I. S.
32.6	34	1	38	Hydrocephaly	6	4		Mrs. R. B.
33.4	42	1	37	Birth Injury failed forceps	8		Morphia gr ¼ 12 hrs before G.A. for Caesarean S	Mrs. S.
39.5	31	1 + 1 miss	?36	? R.H. factor	?		nil	Mrs. G.P. No evidence of Toxaemia. Reactions not quite conclusive Mother RH - Father RH +
40.3	27	1	41	Hydrocephaly				Mrs. A. O.
43.4.	29	1	?36	? Toxaemia	5	14	nil	Mrs. M. P. Case papers absent
47.7	26	1	38	Toxaemia Flg Version	6	4	G. A. for Version nil otherwise	Mrs. H. P.

NEO NATAL DEATHS - 1944

Case No.	Age	Gravida	Maturity	Time of death	Cause	Weight of child lbs.	Weight of child ozs.	Sedation	REMARKS
16.10	31	1	29	2¼ hrs	Prematurity 1st Twin	1	8	Nil	Mrs. R. 2nd S.B. Hydramnios.
21.1	27	5	32	24 days	?Pneumonia Premature	4	8	Nil	Mrs. L. Emergency Admission Baby feeble from birth.
22.10	36	4	32	12 hrs	Prematurity Toxic ?	5	–	1/6th grain Omnopon 16 hours a.n. 75 mgms Peth. 24 hrs a.n. 20 hrs a.n.	Mrs. M. Mrs. L. Pancreatitis. Surgical Induction
27.6	34	2	33	23 hrs	Prematurity Toxaemia	2	13	Nil	Mrs. N. S. Marked Toxaemia c B.P. 230/140 Surgical induction.
34.1	36	3	29	12 hrs	Prematurity Toxaemia	2	–	Nil	Mrs. E. G. Normal breech delivery. Marked Toxaemia Surgical induction
39.2	32	5	36½	4 days	Prematurity	3	8	Morphia gr 1/6 14 hrs a.n.	Mrs. E. M. A. P. H. Emergency ? Toxaemia
39.2	32	5	36½	5 "	Twins Prematurity	3	10		

NEO NATAL DEATHS - 1944 (CONTINUED)

Case No.	Age	Grav-ida	Matur-ity	Time of Death	Cause	Weight of child lbs.	ozs.	Sedation	Remarks
49.1		1	40	5 days	Spina Bifida				Mrs. G. W.
49.6	28	1	35	11 hours	Prematurity Maternal P.P. ? Morph.	4		Morph. grs ¼ 4 hrs a.n. Morph grs 1/6 2 hrs & 35 a.n. G.A. for Caesarean.	Mrs. M. Severe A.P.H. from Planenta P.
2.8	33	3	32	2 hours	Prematurity	1	8	Nil	Mrs. W. A. A.P.H.
2.8	33	3	32	2 hours	Prematurity	2		Nil	Surgical Induction.

1945

The Hospital consists of 18 beds. Most patients received ante-natal care from County Anti-Natal Clinics including the weekly Clinic held at this hospital, or from their own doctors.

During the year 25 emergency cases were admitted.

TOTAL ADMISSIONS	389	Booked 364 Emergency 25 Of these 11 were discharged undelivered and not readmitted.
TOTAL DELIVERIES	374	Primipara 171 Multipara 203 i.e., 45.7% Primipara + 2 miscarriages 1 Primipara, 1 Multipara.
MATERNAL DEATHS	1	(booked) Maternal Mortality .26%
CHILDREN BORN	380	(including 4 sets of twins)
LIVE BIRTHS	374	
STILL BIRTHS	6	Still-birth rate /1000 Live births - 15.8%
NEO NATAL DEATHS	7	Combined Still-birth and Neo Natal Death Rate /1000 Live Births - 34.2%

MORBIDITY - 8 cases of notifiable Pyrexia (M.o.H. Standard)
+ 1 maternal death, giving MORBIDITY RATE 2.38%

- - - - - - -

F O R C E P S - 1945

During the year there were 19 Forceps deliveries, giving a Forceps rate of 5%. One mother died (9th day Pulmonary Embolism, Mitral Stenosis). One baby was still born (prolapse of cord).

Case No.	Age	Gravida	Maturity	Indication	Any Pelvic Abnormality	Duration of Labour 1st. HRS	1st. MIN	2nd S HRS	2nd S MIN	Weight of child lbs	Weight of child ozs.	Result M	Result C	1st Stage Sedation	Remarks
1) 4.9	33	1	40	F. Distress	Gen. Contrn.	23hr	45	6hr	25	6	1	A	A	K.Br & Ch. twice N20 & air.	Mrs. G.
2) 5.6		1	40	R.O.P. Delivered O.P.		38		2	35	8	4	A	A	Nembutal twice grs 3, gr.1½	Mrs. M. (Dr. L)
3) 6.2	24	1	40	F. Distress		8	30	4	25	8		A	A		Mrs. V.
4) 13.3	26	1	40	F. Distress	Outlet Contrn	29	15	4	5	7	4½	A	A		Mrs. A.
5) 14.6	35	5	40	M & F Distress		39	55			7	11	A	A	Morphine SO_4 grs. ¼	Mrs. H.
6) 16.6	28	1	40	F. Distress		31.	30	1	50	7	5	A	A		Mrs. I.
7) 17.6	36	1	40	F. Distress		22			55	7	6	A	A		Mrs. T. Dr. P.
8) 19.4	28	1	38	P.O.P. Rotation 1st (twin) Subsequent delivery		49			55	6	11	A	A	Seconal gr 1½ Chl & KBr twice. Peth. 50 mgms.	Mrs. F.
9) 21.1	24	1	40	P.O.P. Rotation.		16	45	5	-	7	7	A	A	Chl. & KBr Peth. 50 mgms	Mrs. K.

FORCEPS - 1945 (CONTINUED)

Case No.	Age	Gravida	Maturity	Indication	Any Pelvic Abnormality	Duration of Labour 1st S. hrs	1st S. min	2nd St. hrs	2nd St. min	Weight of child lbs.	Weight of child ozs.	Result M	Result A	1st Stage Sedation	Remarks
10)21.6		1	40	F.Distress		19	30	1	35	8		A	A		Mrs.P. Dr. H
11)21.8	43	3	37	Prolapse of Cord, following Cephalic version.		1	50		10	6	1½	A	SB		Mrs. S.
12)25.8	34	1	36	F. Distress	Gen.Contrn	7	45	1	45	5	13	A	A		Mrs.H (Dr.E)
13)28.7	30	1	40	Maternal Cyanosis.		16	40	1	15	7	7	D	A	Peth.50 mgms	Mrs. P.
14)29.2		1	40	F.Distress		14	15	3		7	4	A	A	Seconal ¾ gr Peth.50 mgms	Mrs. T.
15)30.9	24	1	40	P.O.P. manual rotation		16	20	3	15	9	3	A	A	Chl: & KBr twice	Mrs. W.
16)37.1	27	1	40	P.O.P. manual rotation		23		2	20	8	10	A	A		Mrs. P.
17)38.	22	1	40	P.O.P.		6		3	15	7	7	A	A		Mrs. O.J.
18)38.6	25	1	40	Inertia		23	30	2	45	7	6	A	A		Mrs. C.
19)39.1	24	1	40	F.Distress		8	30	2	4	6	7	A	A		Mrs. J. E.

POST PARTUM HAEMORRHAGE - 1945

There were 8 cases in 376 deliveries, an incidence of 2.1%. One mother died on her 9th day of pulmonary embolism (heart case)

Case No.	Age	Grav-ida	Matur-ity	Method of Delivery	Duration of Labour	Cause	Sedation	Treatment	Amt. of loss ozs.	Result Mother	Remarks
8.9	22	1	40	Normal	12hr 50	?		Ecbolics	40	A	Mrs. L. 2½ hrs after deliver H.B. 43% a week on.
10.10	26	1	40	Normal	26hrs10		Chlor & KBr twice	Bimanual Compr. Ecbolics	20	A	Mrs. T. Big baby Dr.M.
25.3	27	4	40	Normal	3hrs 20			Ecbolics	60	A	Mrs. E. W. Pre-natal Pyeliti
26.6	25	1	40	Normal	68hrs45		Seconal twice. Chl. & K.Br(1) Peth. mgms 50 (2)	Ecbolics	40 +	A	Mrs. E. B. Membranes torn 2 previous miscarriages.
28.7	30	1	40	Forceps	18hrs 5		Peth.50 mgms	Hot Douche Ecbolics	30	D	Mrs. P.
33.1	23	1	40	Normal	7 hrs15			Ecbolics	20	A	Mrs. L.M. 9lbs 1 oz. Baby
36.1+	32	2	40	Normal	7 hrs15			Manual Re-moval from Cervix.	20 +	A	Mrs. M.T. 8lbs 6 oz. Baby
39.5	20	1	40	Normal	1 hr			Ecbolics	30 +	A	Mrs. J. G.

Apart from Mrs. T (Case 36.1+) there was one other case of retained placenta during the year - Case No. 14.2

CAESAREAN SECTION - 1945

This was performed on 11 cases during the year, an incidence of 2.9%. One child died. Three cases were advanced in labou

Case No.	Age	Gravida	Maturity	Indication	Weight of child lbs.	Weight of child ozs	Result M.	Result C.	Type of Operation	Remarks
1) 5.4	32	2	37	Disproportion 2nd Caes:	6	4	A	A	Classical. Labour just started. Sterilisation.	Mrs.V.R. Mrs. L.
2) 11.5	37	2	36	A.P.H. Not in labour.	6		A	NND	Classical	Mrs. B. Mr. C.
3) 16.1	34	1	40	Obstructed Labour R.M.P. Membranes ruptured. 5 days 36 hrs in labour F.D.	7	8	A	A	Lower Segment	Mrs. N.P. Mr. T. Emergency admission.
4) 16.5		3	?36	Disproportion 3rd Caes: in early labour.	3	15	A	A	Classical	Mrs. E. I. Mrs. L.
5) 18.1	28	2	40	Disproportion 2nd Caes: Outset of labour. Breech	8	3	A	A	Classical	Mrs. A. E. Mrs. L.
6) 19.7	37	1	40	14 hrs in labour, with Rupt. Membranes No advance.	7	4	A	A	Lower Segment. Local Anaesthetic	Mrs. S. Mr. T. Trial Labour
7) 23.9	26	1	?37	Cardiac & Oedema not in labour.	5	7½	A	A	Classical & Sterilisation	Mrs. D Mrs. L. & Dr. C.

CAESAREAN SECTION - 1945 (CONTINUED)

Case No.	Age	Grav-ida	Matur-ity	Indication	Weight of child lbs.	Weight of child ozs.	Result M.	Result C.	Type of Operation	Remarks
8) 26.2	40	1	36	Pre-Eclamptic Tox. Disproportion.	4	5	A	A	Classical	Mrs. L. Mr. C.
9) 37.7	22	1	40	Disproportion Membr. Rupt. 29 hrs Cardiac	6	10	A	A	Lower Segment Local Anaesth: Sterilisation	Mrs. E. L. Mr. T. Trial Labour
10) 38.9	26	2	40	Disproportion 2nd. Caesarean	7	8	A	A	Classical with sterilisation	Mrs. T. Mr. C.
11) 41.3	32	5	40	Cardiac Not in labour.	6	10	A	A	Classical with sterilisation	Mrs. E. J. Mrs. L.

MORBIDITY - 1945

There were 8 cases of Notifiable Pyrexia and one maternal death giving a Morbidity Rate of 2.38% (M.o.H.Standard)

Case No.	Age	Grav-ida	Matur-ity	Cause of Morbidity	Post Natal stay in Hospital	Result M.	Result C.	Remarks
19.1	22	1	40	Sepsis (swab B.Coli no strep)	15 days	A	A	Mrs. R. Spont. Breech delivery
34.3	23	1	40	Sepsis (no strep)	19 "	A	A	Mrs. R.S. Free loss post natal.
10.8	30	2	40	Breast Abscess-es	58 "	A	A	Mrs. McB.
37.7	22	1	40	Sepsis	26 "	A	A	Mrs. L. L.S.C.S. in labour, 29 hrs with Ruptured Membr.
31.7	27	1	40	Sepsis	13 "	A	A	Mrs. N. C.
28.4	24	1	40	Sepsis	13 "	A	A	Mrs. V. K. Free loss.
21.2	19	1	40	Sepsis	19 "	A	A	Mrs. B. Retained membrane.
42.6	22	1	40	Sepsis	14 "	A	A	Mrs. J. H.

Haemolytic streptococci not found in routine swabbing of any of above.

MATERNAL DEATH

One booked case died during the year giving a Mortality rate of .26%

Case No.	Age	Grav-ida	Admitted	Delivered	Died	Cause	Remarks
28.7	30	1	17.8.45	15.9.45	24.9.45	Pulmonary Embolism.	Mrs. P. Mitral stenosis with aortic defect and cardiac en-largement assessed at 3rd month. Termination considered but decided to allow continuance of preg (Wilkinson). After 1 hr i 2nd stage cyanosed and distressed. Diff. forceps delivery. PPH 30 ozs. Weight of child 7lbs 7 ozs. Sedation Peth.50 mgms N20 & E for delivery. Developed Pulmonary Embolism and died 9th day.

PAEDIATRIC REPORT - 1945

During 1945 there were 380 births (including 4 sets of twins). There were 374 live births and 6 still births. There were also 7 neo-natal deaths.

Still-birth rate 15.8% per 1000 live births
Combined S.B. & N. N. D. rate 34.2 " " " "

STILL BIRTHS

Case No.	Age	Grav-ida	Matur-ity	Cause	Remarks
6.9	25	1	38	Toxaemia	Mrs. H. 1st twin No Sedation. premature 2nd NND (Meningocele)
13.1	32	4	36	Anencephaly	Mrs. R.
14.9	15	1	37	Toxaemia	Miss D. R. No sedation. V. Premature.
15.8	31	2	29	Prematurity (2.13 oz)	Mrs. A. B. Previous pelvic floor repair. A.P.H. Peth. 50 mgms Seconal gr.1½ 8 hrs before d
21.8	43	3	37	Atelectasis flg. Prolapse of cord	Mrs. S. Proph. Ceph. Version. Low Forceps delivery.
24.9	40	6	40	?2nd twin (Vertex) Cord round neck	Mrs. S. 1st twin breech O.K.

NEO- NATAL DEATHS - 1945.

Case No.	Age	Grav-ida	Matur-ity	Time of Death	Cause	Remarks
6.9	25	1	38	3rd day	Spinal Meningocele	Mrs. H. 2nd twin
10.9	20	1	40	14th day	Pyaemia Umbilical Sepsis St. Aureus p.m.	Mrs. N. H.
11.5	37	2	36	2nd day	Atelectasis p.m.	Mrs. B. C.S. for A.P.H. not in labour 36 weeks. weight 6 lbs. N_2O, O_2, & E at p.m. Operation.
17.8	22	1	?28	2nd day	Prematurity 2 lbs. 8 ozs.	Miss J.T.(W.L.A.) No sedation
33.3	46	3	?36	10 hours	? Prematurity 3 lbs 14 ozs.	Mrs. L. H. No sedation. Breech delivery Note age of mother
34.9	36	7	40	4 days	Subarachnoid Haem. p.m	Mrs. D. R. Normal delivery no sedation
39.6	37	4	40	5th day	Spina Bifida	Mrs. N. N. No sedation. Breech delivery

REPORT OF

THE LUCY BALDWIN MATERNITY HOSPITAL

STOURPORT-ON-SEVERN

WORCESTERSHIRE

1946

- 1946 -

The Hospital consists of 18 beds (and 2 beds in separate Isolation Block not used during the year). Lying-in Hospital period reduced to 10 days on May 7th. Most patients received Ante-natal care from County Ante-Natal Clinics including the weekly Clinic held at this Hospital, or from their own doctors.
During the year 18 emergency cases were admitted.
Booking was restricted to a considerable extent to:-

1. Primipara
2. Bad Histories
3. Difficult home conditions

TOTAL ADMISSIONS 435 — BOOKED 417, EMERGENCY 18

of these 5 were discharged undelivered and not readmitted.

TOTAL DELIVERIES 429 — PRIMIPARA 228) i.e., 53% PRIMIPARA; MULTIPARA 201)

MATERNAL DEATHS 2 — BOOKED 1.) MATERNAL MORTALITY .46%; EMERGENCY 1.)

CHILDREN BORN 440 (10 sets of twins)

LIVE BIRTHS 429

STILL BIRTHS 10 — STILL BIRTH RATE 22.7 per 1000 LIVE BIRTHS.

NEO-NATAL DEATHS 11

COMBINED STILL-BIRTH AND NEO-NATAL DEATH RATE 47.7 / LIVE BIRTHS

MORBIDITY 8 cases of notifiable Pyrexia (M. o H. Standard) + 2 Maternal Deaths. Morbidity Rate 2.29%

- - - - - - - - - - - -

Nearest X-Ray facilities, Kidderminster General Hospital
Distance - 4 miles.
Nearest Pathological Laboratory, Worcester Royal Infirmary
Distance - 13 miles.
Case Numbers throughout this Report refer to Register of Cases (C.M.B)

- - - - -

22 PRIVATE CASES WERE ATTENDED BY NINE OUTSIDE DOCTORS

MULTIPLE PREGNANCY - 1946

There were 10 Twin Pregnancies, a percentage of 2.3. One first twin was still-born and four premature infants died in the neo-natal period.

Case No.	Age	Gravida	Maturity	Position 1st.	Position 2nd.	Weight 1st	Weight 2nd.	Result M.	Result 1st.	Result 2nd.	Remarks
1) 43.6	30	5	36	Vertex	Breech	5.5	4.14	A	A	A	Mrs. G.P. Drew-smyth Induction. Toxaemia
2) 46.3	18	1	33	Vertex	Breech			A	D	D	Mrs. P.B. 1st died in 12 hrs. 2nd in 7 days free loss. Pyrexia notified.
3) 50.3	34	3	36	Both	Vertex	5.9½	5. 5	A	A	A	Slight APH. Mrs. P.S.
4) 8.4	20	1	38	Breech	Vertex	4.11	4. 8	A	SB.	A	Toxaemia. Albumen 12 Gm. B.P. 194/114 Drew Smyth Induction. Moderate Pyrexia not notifiable. Mrs. D. W.
5) 9.2	39	5	38½	Vertex	Breech	6. 2	5.10	A	A	A	Mrs.E.H. Free loss.
6) 21.3	37	4	36	Both	P.O.P.	4. 1	4. 3	A	A	A	Mrs.F.C. Mother T. B.
7) 30.8	26	1	30	Vertex	Breech	2. 6	2. 3	A	D	D	Mrs. G. M. Mother Exophthalmic Goitre on Thiouracil. 1st twin died 4 hrs. 2nd 8 hrs.
8) 33.4	30	5	38	Both	Vertex	5.10	6.12	A	A	A	Free loss. Mrs. M.S.
9) 34.3	31	1	38½	Both	Vertex	6.0	5.13	A	A	A	Mrs. G. Drew Smyth Induction in account increasing albumen. maternal discomfort. Low forceps delivery of 1st twin on account of marked second stage inertia. Normal delivery 2nd twin.
10) 34.6	25	1	38	Both	Vertex	5.0	5.8	A	A	A	P. B.

ABNORMAL PRESENTATIONS - 1946

PERSISTENT OCCIPITO POSTERIOR

There were 12 cases of this during the year. 11 delivered spontaneously. 1 premature baby died at 11 days of Pulmonary Oedema and another mother had a morbid puerperium. One case was manually rotated and delivered occipito-anterior by forceps. Details of three abnormal cases are given below. 2 mothers had P.P.H (Q.V)

Case No.	Age	Grav-ida	Matur-ity	1st Stage hrs.	1st Stage mins.	2nd Stage hrs.	2nd Stage mins.	Method of Delivery	Result M.	Result C.	Remarks
1) 47.7	32	1	40	9	15	2	35	Spont. & Episiotomy	A	A	Mrs. H. Baby weighed 8 lbs 6 ozs. Moderate P.P.H. With considerable shock. Notifiable Pyrexia Transferred to W.R.I. Eventual recovery.
2) 4.8	31	1	40	72		1	15	Rotation & Forceps	A	A	Mrs. A. Baby weighed 8 lbs. 6 ozs.
3) 7.7	37	2	36	12	20	20		Spontaneous	A	NND	Mrs. P. Baby weighed 4 lbs. 2 ozs. Tox: Tube induction for this. Second toxic pregnancy. No living child. Developed cellulitis of leg on 5th day. Died 11th day of pulmonary Oedema.

FACE

There were two cases of this during the year. Both mothers were Primigravia and both delivered spontaneously the babies weighing 6 lbs. 11 ozs (Episiotomy Mrs. W. 17.8) and 7 lbs. 4 ozs. (Mrs. F. 25.8)

B R E E C H - 1946

There were 17 Breech deliveries during the year, ten in Primigravida, seven in Multigravida.
Six babies were lost. Corrected Foetal Mortality 11.8%

Primigravida 10 Cases

7 Safely delivered (One C.S)
1 Full term baby S.B.
2 Prems. one SB, one NND.

Multigravida 7 Cases

4 Safely delivered
1 Full term Baby S.B. (Detailed)
1 SB. Anencephaly
1 30 weeks twin NND.

Details given below of Primigravida cases and one Multigravida case.

Case No.	Age	Grav-ida	Matur-ity	LEGS	Weight lbs.	Weight ozs	Result M.	Result C.	Remarks
1)43.5	32	1	40	Extended	7	3	A	A	Mrs. S. Emergency admission a week early for slight A.P.H. Hence P.Ext.Version not attempted. Assisted delivery.
2)45.2	33	1	40	Flexed	8	6	A	A	Mrs. B. Married 11 years. P. Ext.Version without anaesth. Failed. Fibroids. Caesarean Section.
3)46.3	18	1	34				A	NND	Mrs. P.B. 2nd.Twin Premature. Died at 7 days. Patient developed Notifiable Pyrexia
4)48.5	28	1	40	Extended	7	4	A	A	Mrs. B. Admitted in labour. No record of P.Ext.V. (Wythal Clinic) Normal Delivery.
5) 6.5	25	1	40	Extended	7	5½	A	A	Mrs. D. Emergency at 39 weeks. When P.Ext. Version under G.A.Failed. Assisted Delivery.

Case No.	Age	Gravida	Maturity	LEGS	Weight lbs.	Weight ozs.	Result M.	Result C.	Remarks
6)8.4	20	1	?38		4	11	A	SB	Mrs.W. 1st Twin Drew Smyth Induction for marked toxaemia Infant S.B. Although heart beat 40 mins. Assisted Delivery.
7)31.5	29	1	39	Extended	5	12	A	A	Mrs.F.C. T.B. P. Ext.Version failed. No.Anaesth. Labour followed next day. Assisted delivery (Normal)
8)37.5	25	1	40	Extended	7	4	A	A	Mrs. M. P. Ext.Version without anaesth. failed. Normal assisted delivery.
9)35.2	23	1	40	Flexed	7	13	A	NND	Mrs.H.W. P. Ext.Version done but infant reverted to Breech. NND 24 hrs. P.M.Atelectasis. Left lung airless No cerebral haemorrhage. Normal assisted delivery.
10)35.5	31	1	40	Extended	7	-	A	A	Mrs.W.No record of P.Ext.Version Normal Delivery.
11)21.6	32	3	42	Flexed ?	8	2	A	SB	Mrs.N. Jaw & Shoulder Tractor required for head. P.Ext.Version without anaesth. failed- not persisted with on account of history of two previous still births.

F O R C E P S - 1946

During the year there were 11 Forcep Cases, giving a Forceps Rate of 2.5%

1 Mother died

2 Babies Still-born (one macerated)

Case No.	Age	Gravida	Maturity	Indication	Any Pelvic Abnormalty	Duration of Labour 1st.St. hrs. min.	Duration of Labour 2nd St. hrs. min	Weight of child. lbs. oz.	Result M.	Result C.	Sedation	Remarks
1) 50.5	29	1	39	M & F Distress	Gen. Contraction	52	3 20	7 4	A	A	Chloral gr xx 1st night. Morph SO_4 gr $\frac{1}{4}$ 1½ hrs a.n.	Mrs.W. (J.S.M.C) Dre Smyth. Infant has loud systolic murmur.
2) 4.8	31	1	40	P.O.P. M & F Distress		72	1 15	8 6	A	A	Peth.50 mgms + 6 Doses KBr & Chloral 3 drachms of each	Mrs.A. Forceps Delivered P.O.P.
3)10.2	30	1	40	D.T.A.	Probable General Contract'n Obesity	54 30	1	10 11¾	D	D	KBr & Chlor. 3 times. Seconal grs 3	Mrs.M. Febrile in labour with Foul. Discharge. Death 6 hrs later.
4)12.2	34	1	39	F.Distress		16	3 10	6 15	A	A	Nil	Mrs.B.S (Emergency) Fit before admission Infant not breast fed Notifiable Pyrexia 9t day. No Haemol.strep Chr.Otitis Media.

46

Case No.	Age	Gravida	Maturity	Indication	Any Pelvic Abnormality	Duration of labour 1st St. hrs min	Duration of labour 2nd St. hrs min.	Weight of child lbs. ozs	Result M.	Result C.	Sedation	Remarks
5)16.4	25	1	40	F.Distress		12 40	1 35	6 1	A	A	KBr & Chlor grs xx 7½ hrs a.n.	Mrs. M.P.
6)21.5	27	1	40	P. O. P.	Marked Contr. Disprn.	62	22	7 0	A	A	KBr & Chloral once. Peth. 50 mgms twice. Morph gr 1/6 after 1st attempt forceps. 6hrs 20 a.n.	Mrs. J. W. Manual Rotation & Forceps at 2nd attempt 18 l later. Baby depress frt. rt parutal Subsequent good recovery.
7)22.5	23	1	40	F.Distress	Disprn.	9	7 15	7 6	A	A	Peth.50 mgms twice. Seconal grs 1½ once Morph. gr 1/6 G & A unco-operative.	Mrs. D. C. After trial labour in consult. with J.S.M.C.
8)26.2	32	1	42	Inertia M & F Distress		85 hrs	2 50	8 8	A	SB	1)Peth 100 Sec.1½ 2)KBR & Chl. 30 3)Peth.50 KBr & Chl.15 4)Peth100 IM KBr & Chlor.30 5)Morph gr ¼ Hyoscin 1/100 6)Hyoscine. 9½ hrs a.n.	Mrs. B. E. Pre-nata Pyelitis. Infant macerated

Case No.	Age	Grav-ida	Matur-ity	Indication	Any Pelvic Abnormality	Duration of Labour		Weight of child	Result		Sedation	Remarks
						1st St. hrs min	2nd St. hrs min.	lbs. ozs	M.	C.		
9) 27.5	36	1	40	M & F Distress	Outlet Contrn.	6 30	8 -	8 1½	A	A	KBr 30 Chlor.20 Peth.50 IM Seconal 1½ 3¾hrs a.n.	Mrs. L. (M. Club Foot
10) 33.10	?	2	39	M ? Distress		10 30	1 35	8 11½	A	A	Nil. Poor Co-op.	Mrs. P. 2nd Forceps
11) 34.3	31	1	38½	Inertia				6	A	A	Nil	Mrs. G. 1st twin

DESTRUCTIVE OPERATIONS - 1946

None during the year

PRIMARY UTERINE INERTIA - 1946

During the year there were 6 cases. No mother died. 1 Foetus (S.B.macerated)

Case No.	Age	Grav-ida	Treatment	Result M.	Result C.	Hours in labour.	Remarks
1)15.7	26	1	Sedation, etc.	A	A		Mrs. W. Drew-Smythe for Toxaemia Normal Delivery.
2)17.6	36	1	Sedation + A.R.Mat $\frac{1}{2}$ dilatation	A	A	40	Mrs. D.
3)21.5	27	1	Sedation and Rotation & Forceps	A	A	84	Mrs. W. P.O.P.
4)26.2	32	1	Sedation & Forceps	A	SB	88	Mrs. E. Infant macerated Pre-natal maternal pyelitis
5)30.4	26	1	Sedation etc.	A	A	42	Mrs. B. P.P.H.
6)34.3	31	1	Forceps	A	AA		Mrs. G. 1st. Twin.

PROLAPSE OF CORD - 1946

No cases during the year.

ACCIDENTAL HAEMORRHAGE - 1946

There were 9 cases during the year. 2 cases discharged elsewhere for delivery. Of remaining 7 all were slight requiring no treatment other than hospitalisation. All babies survived.

Case No.	Age	Grav.	Maturity at dly.	Nature of haemorrhage	Remarks
1)45.1	30	1	41	Slight at 38 weeks	Mrs. H. **RH-ve.** No Tox. No Placenta felt. Drew-Smyth for post maturity. Foetus 8.6 A & well
2)46.6	32	1	40	3 slight from 6th month.	Mrs. E. P. Flg. severe car accident. Subsequently went to **term.** Child normal. No Tox.
3)47.6	22	2	40	Large Clot at 38/52	Mrs. P. Subsequently normal delivery. No Toxaemia.
4)48.2	23	2	39	Twice, second loss 8 fluid ozs.	Mrs. C. Normal delivery a week after last loss. No Tox.
5)49.6	29	2	40	Slight shows throughout Preg.	Mrs. P. Normal delivery Very slight evidence of hypertension.
6)50.3	34	3	38	Slight show 37th week.	Mrs. S. Twins. **Mildly** Tox.
7)25.8	37	1	38	Slight throughout Preg.	Mrs. N.B. Fibroids ? sl.Tox.
8)32.1	37	1	Not D'd. in Hosp.	ditto	Mrs. S. Multiple Fibroids Prem.SB at home ?Hydrocephalic
9)33.7	28	2	Transf. to Hallam.	?	Mrs. T ? (Nearer own home)

POST-PARTUM HAEMORRHAGE - 1946

There were 10 cases in 430 deliveries - incidence of 2.3%. One mother died, her post-partum bleeding being secondary to her general condition (q.v.)

Case No.	Age	Gravida	Maturity	Method of Delivery	Duration of Labour	Cause	Amt. of loss. ozs.	Treatment	Result Mother	Remarks
1)47.7	32	1	40	Spont.P.O.P.	12 hrs	Shock Lacerations	20	Ecbolics	A	Mrs. H. Notifiable Morbid Puerp.
2)11.7	24	1	39	Normal	41½	Inertia	60	Manual removal after 2hours	A	Mrs. J.W. Notifiable Morbid Puerp.
3)18.1	32	1	41	Normal	16		30	Manual removal after 2 hours	A	Mrs.T. Febrile Puerp
4)16.5	35	3	37	Normal	7	?	60	Ecbolics Stimulants	D	Mrs.D. q.v.
5)19.1	25	2	40	Normal	28¼	Previous C.S.	28	Ecbolics	A	Mrs.M.C. S. Febrile Puerp.
6)21.1	19	1	39	Normal	5¾		46	Ecbolics	A	Mrs.M.P. S.Febrile Puerp.
7)27.7	27	2	40	Normal	13		40	Ecbolics	A	Mrs.S. Normal Puerp.
8)30.4	26	1	39	Normal	41½	Dystocia Big Baby	28	Ecbolics	A	Mrs. B. Normal Puerp
9)31.8	24	1	41	Spont.P.O.P	10½		28	Ecbolics	A	Mrs. C. S. Febrile Puerp.
10)33.4	30	5	38	Normal	4	Atony	40	Ecbolics	A	Mrs. S. Normal Puerp

PLACENTA PRAEVIA - 1946

One case during the year. The baby died after 24 hours.

Case No.	Age	Gravida	Maturity	Remarks
14.10	25	2	33	Mrs. G. D. Classical C.S. (q.u) Central P.P. Sharp A.P.H Baby weighed 4lbs. 2 ozs. N.N.D. Prematurity

RETAINED PLACENTA - 1946

There were 3 cases during the year, an incidence of .7%. No mother died.

2 were manually removed (see P.P.H), and had febrile puerperia, one being notifiable.

1 expelled Crede after injection of saline into cord.

- - - - - -

CAESAREAN SECTION - 1946

This was performed on 10 cases during the year, an incidence of 2.3%. No mother died. There was 1 N.N.D after operation for Placenta Praevia after severe haemorrhage at 32nd week. No case was far advanced in labour.

Case No.	Age	Grav-ida	Matur-ity	Indication	Weight of child lbs.	Weight of child ozs.	Result M.	Result C.	Type of Operation.	Remarks.	
1)44.3	33	2	40	Disproportion 2nd. Caes:	8	13½	A	A	Classical. Not in labour. Sterilisa-tion.	Mrs.F.D.	Mr. C.
2)45.2	33	1	40	Breech. Fibroid Married 11 yrs.	8	6	A	A	Classical. Not in labour	Mrs. B.	Mr. C.
3) 1.9	?	2	40	Disproportion 2nd. Caesarean.	8	12	A	A	Classical. Not in labour.	Mrs. S.	Prof. L.
4) 9.9	24	3	40	Disproportion 3rd Caesarean	5	2½	A	A	Classical. Not in labour. Sterilisa-tion.	Mrs. S.	Mr. C.
5)14.10	25	1	32	Placenta P.	4	2	A	NND	Classical	Mrs. D.	Mr. D.
6)18.10	25	2	40	Disproportion 2nd. Caes.	7	11	A	A	Lower Seg.	Mrs. J.	Mr. D.
7)21.8	36	2	40	Disproportion. 2nd. Caes.	6	13	A	A	Classical. Not in labour.	Mrs. M.	Mr. C.
8)20.10	33	1	40	Disproportion	8	12	A	A	Classical. Not in labour.	Mrs. S.	Mr. C.
9)23.7	34	1	40	Disproportion	6	13	A	A	Lower Seg.	Mrs. B.	Mr. D.
10)29.8	35	5	40	Disproportion Bad History Previous caes:	7	1	A	A	Classical Not in labour Sterilization.	Mrs. P.	Mr. C.

MORBIDITY - 1946

8 Cases of Notifiable Pyrexia (M. o. H. Standard) occurred during the year.
There were also 2 maternal deaths. This gives a Morbidity Rate of 2.3% .

Case No.	Age	Gravida	Maturity	Cause of Morbidity	Post-Natal stay in Hospital.	Remarks	
1)46.3	18	1	33	Upper Respiratory Infection.	12 days	Mrs. P. B.	Premature twins.
2)47.7	32	1	40	Sepsis & P. P. H.	Transferred W.R.I. 7th Day.	Mrs. H.	P.O.P. Spont. Subsequent Recovery.
3)	31	1	40	Sepsis Long Labour	17 days	Mrs. G.	No Haem. Streps. Normal Delivery
4)12.2	34	1	40	Sepsis	20 days	Mrs.B.S.	Forceps. Fit. before admission. Otitic discharge.
5)	35	8	40	?	15 days	Mrs. S.	Auric Fibrillation. Normal Delivery
6)	29	1	40	Breast Flush	16 days	Mrs. G.	Episiot, Normal Delivery
7)21.5	27	1	40	Sepsis	16 days	Mrs. J.A.W.	Forceps.
8)11.7	24	1	39	Manual Removal Placenta.	18 days	Mrs. J. W.	

MATERNAL MORTALITY - 1946

Two cases died during the year, one booked, one an emergency giving a percentage mortality of .46%

Case No.	Age	Gravida	Maturity	Admitted	Delivered	Died	Cause	Remarks
1) 10.2	30	1	40 wks.	3.6.46	5.6.46	6.6.46	SHOCK	Mrs. B. M. A very obese (16 stone) woman, who 3 weeks before delivery had a large boil on vulva. A week before onset of labour head was well engaged. Admitted in early labour to side ward on account of temperature and foul smelling vulvar discharge. Very long 54½ hours, first stage. Forceps delivery for foetal distress - Meconium in liquor F.H.160 - (maternal pulse 120, temp. 102.6°F. membranes ruptured 18 hours. Relatively easy delivery of head, considerable difficulty with shoulders. Infant S.B. 10 lbs. 11¾ozs. Free but not apparently excessive loss in 3rd stage. Patient never satisfactorily recovered from operation and died 5 hours later. Post mortem refused.
2) 18.5	35	3	37 wks	10.8.46	14.8.46	14.8.46	??	Mrs. D. Known to be a mild diabetic for one year. Sugar free after 2nd. day of admission. Complained of right upper abdominal pain during last 10 days, not severe. Nothing abnormal found during stay in hospital before onset of labour. No fever. No Toxaemia. Spontaneous onset of labour. Normal 1st stage of 4 hrs 50 mins. After 10 minutes bearing down in 2nd stage suddenly became cyanosed, Dyspnoeic and in great pain. Bloody froth at mouth. Widespread Petechiae over chest and abdomen. Within a few minutes condition so extreme that aided delivery impossible. An hour later easy delivery of 7lbs. S.B. Foetus. Placenta followed in 10 minutes. Steady loss of non-clotting blood from vagina until death 2 hours later. Widespread subcuticular haemorrhage present. Post Mortem refused. Cause of death uncertain

TOXAEMIAS OF PREGNANCY - 1946

There were 34 cases during the year. No mother died. 5 infants were still-born and two died in the neo-natal period, giving a foetal mortality of 19% (2 sets of twins). This includes one case of post-partum eclampsia (3 severe fits) and two doubtful cases, who each had one fit during labour. These three cases and their babies did well.

Case No.	Age	Gravida	Maturity	History of Remal Disease	Albumen	Oedema	Highest B.P. in Hosp.	No. of Days in Hospt. or Disc,	If labour induced	Method of Dly.	Result M.	Result C.	Birth Wt. of Child. lb.	Birth Wt. of Child. oz.	Remarks.
44.6	25	1	37	-	ft. tr.	-	144/90	2	Drug	N	A	A	5	11½	Mrs. G
45.6		2	38				164/100	0		N	A	A	5	2	Mrs. Y.
46.2	23	2	38		1 Gm	++	130/90	2	D-Smyth	N	A	A	6	15	Mrs. W.
47.4	35	3	37		trace	+	160/100	8	D-Smyth	N	A	A	5	5	Mrs. R.
47.10	37	1	41	Nephritis	trace	+	140/90	14	D-Smyth	N	A	SB	7	12	Mrs. B.
50.3	34	3	37		trace	+	146/90	10		N	A	A	5 5	9½ 5	Mrs. S. Slight A.P.H.
1.1	35	1	29		12	++	190/96	11		N	A	SB			Mrs. H Left Hosp against advice.
3.16	33	1	40		trace	+	160/100	5	Drug	N	A	A	7	11	Mrs. C
3.7	37	2	37				176/110	10	D Smyth	N	A	A	6	5	Mrs. S. Hypert only
6.2	31	5	40	4 prev. mildly tox. pregnancies	ft. tr.	+	180/90	0		N	A	A	7	8	Mrs. W. One fit in 2nd stage
7.7	37	2	36+	Tox. S.B. 1st. Preg.	1 day only		240/130	41	Tube	P.O.P	A	NND	4	2	Mrs.P. Died 11 da from oedema of lungs (infant)

Case No.	Age	Gravida	Maturity	History of Remal Disease	Albumen	Oedema	Highest B.P. in Hospital	No. of days in Hosp. or Disc.	If labour induced	Method of Dely	Result M.	Result C.	Birth wt. of child lbs.	Birth wt. of child ozs.	Remarks
8.4	20	1	38		12 Gm	+	196/114	5	D-Smyth	Breech		SB	4	11)	Mrs.W.
										Vertex	A	A	4	2)	
8.8	33	1	34		5 Gm		180/110	9	Tube	Vertex	A	NND	3		Mrs.S. Infant died 3rd. day
12.2	34	1	39		nil		126/80	0		Vertex Forceps	A	A	6	15	Mrs. S. 1 fit before delivery
15.5	38	1	37½	Prev. Misc. 4-5/12	trace	+++	180/110	14	Tube		A	A	5	9	Mrs. D.
15.7	26	1		Nephr. Alt.3		+++	150/100	29	D-Smyth no response	N	A	A	8	11½	Mrs. W.
17.1	35	6	39	Rec.Tox	trace	+	130/90	24	D-Smyth	N	A	A	8	12	Mrs. D.
17.7	34	3	41	Rec.Tox			160/100	8		N	A	A	7	8	Mrs. F.
18.1	32	1	40		trace		140/90	1		N	A	SB	6	9	Mrs. T.
18.3	24	1	40			++	150/110	0		N	A	A	7	3	Mrs. M.
18.6	36	3	38		½ gm.		158/100	10	D-Smyth	N	A	A	5		Mrs. Y.
19.3	35	2 +1m	40		½ gm		148/94	10		N	A	A	6	2	Mrs. N.
20.5	40	2 + 2m	38	Rec.Tox	trace	+	180/114	7	Drug	N	A	A	4	15	Mrs. T.
20.9	39	5	38½	Hypertension	trace		170/110	25	Tube	N	A	A	8	2	Mrs. G.

Case No.	Age	Gravida	Maturity	History of Remal Disease	Albumen	Oedema	Highest B.P. in Hospital	No. of days in Hosp. or Dis.	If labour induced	Method of Dely	Result M.	Result C.	Birth Wt. of child lbs.	Birth Wt. of child ozs	Remarks
21.10	21	2		**Rec.Tox**			160/100	0		N	A	A	6	2	Mrs.T.
22.1	40	1 +	22				244/160	10							Mrs.N.M. tr. KGH for **Hysterotomy**
22.3	33	1	36	**Scarlatina**	trace	++	190/110	1	Arm	N	A	A	6	12	Mrs. H.
25.4	36	1	39		5½ gm.		170/110	12	D-Symth	N	A	A	5	7	Mrs. M.
26.6	40	7	32	**Rec.Tox**			218/140	6	D-Smyth	N	A	SB			Mrs. B. **Anenceph.**
27.2	26	1	41		2½ gm.		176/110	2		N	A	A	9	14	Mrs. H.
27.8	23	1	38		5 gm.		150/104	10	D-Smyth	N	A	A	6		Mrs. L. E.
28.1	35	2	39				170/110	4	Drug	N	A	A	6	1	Mrs. E.N.C.
29.2	33	4	40		+	+	180/120	0		N	A	A	6	9	Mrs. L. Post-partum Eclampsia 3 FITS
32.3	29	2	38	Hypert.			170/86	14		N	A	A	6	7	Mrs. M. W.

MATERNAL DISEASE, CONCURRENT WITH OR COMPLICATING PREGNANCY

1946

Pyelitis	6 cases.	Case Nos. 8.9., 16.3., 18.2., 21.5 26.2.
Fibroids	3 cases	25.8., 32.1 45.2.
Pulmonary Tuberculosis	3 cases	44.1., 21.3., 31.5.
Auricular Fibrillation	1 case	10.6.
Paroxysmal Tachycardia	1 case	14.2
Idiopathic Haematuria	1 case	30.7
Grave's Disease	1 case	30.8
Severe Hypochromic Anaemia	1 case	31.2
Rhesus Factor	2cases	47.9., 26.7.
Diabetes Mellitus	1 case	18.5.

No case of Breast Abscess occurred in Hospital during the year.

- - - - - - - - -

- - - - - -

INDUCTION OF LABOUR (OPERATIVE) - 1946

43 Cases (10% of total deliveries in Hospital).

Maternal Mortality Nil

1 Post-mature Infant S.B.
1 Toxic premature twin (breech) S.B.
2 Toxic prematures N.N.D.
1 Anencephalous monster S.B.

In 20 cases Induction performed for Toxaemia.

In 18 cases Induction performed for Suspected Disproportion.

In 5 cases Induction performed for Post-maturity

NOTE: Case summaries have been worked out, but omitted as irrelevant to this Thesis.

- - - - - - - -

PAEDIATRIC REPORT - 1946

During the year there were 440 births (including 10 sets of twins). Of these 429were live births. There were 11 Still-births including one abortion. There were also 11 neo-natal deaths.

Stillbirth rate - 22.7 per 1000 live births
Combined S.B & N.N.D. rate - 47.7 " " " "

STILL-BIRTHS

Case No.	Grav-ida	Matur-ity	Cause	Remarks
1)47.10	1	41	?	Mrs.B. Normal delivery ? Tox. Aet 37.
2) 4.7	2	40	Spina Bif-ida	Mrs. P. Breech delivery AET. 25
3) 8.4	1	?38	(Breech delivery) Tox ++	Mrs. W. AET.20 1st Twin 4lbs.11oz.
4)10.2	1	40	Birth Injury	Mrs. M. Forceps. Mat.Death
5)18.1	1	41	?	Mrs. T. Pyelitis at 5½/12 AET 32.
6)18.5	3	?37	Maternal Syncope	Mrs.D. AET 35. Diabetes Sudden Syncope. Mat.Death
7)21.6	3	42	? Birth Injury	Mrs. N. Breech. AET 32. Slight diff. with head. History of 2 previous S.B's Weight 8lbs 2ozs.
8)26.2	1	40	?	Mrs.E. Forceps. Infant macerated AET.32. Pre-natal Pyelitis.
9)26.6	6	30	Anencephaly	Mrs. M. B. Hydramnios Tox. AET.40
10)26.7	2	40	Hydrops. Foetalis	Mrs. P. AET.29 Rhesus-ve
11) 1.1	1	27	Toxaemia	Mrs.Q.H. Severe Toxaemia Refused treatment B.B.A

- - - - - -

NEO-NATAL DEATHS - 1946

Case No.	Gravida	Maturity	Time of Death	Cause	Remarks
1&2)46.3	1	? 34	1st twin 12 hrs 2nd twin 7 days	Prematurity	Mrs. P. B. AET. 18
3) 2.6	9	28	10 minutes	Prematurity 3lbs 9 ozs.	Mrs. R. W. AET 39. Hydramnios +++
4) 7.7	2	36	11 days	P.M. Oedema of Lungs Septic infection Toxaemia	Mrs. P. Toxaemia AET.37 P.O.P. Delivery Spont.
5) 8.8	1	34	3 days	Prematurity 3 lbs. Toxaemia	Mrs. S. AET. 33 Toxaemia
6) 14.2	3	38	18 days	Mongolian Deficency	Mrs. A. AET 28 Paroxysmal Tachycardia
7) 14.10	1	32	24 hours	Prematurity 4lbs 2 oz.	Mrs. D. Free A.P.H. from Placenta Praevia. C. Section. AET.25.
8&9)30.8	1	29	1st twin 4 hrs 2nd twin 8 hrs	Prematurity 2lbs 6 oz. each	Mrs. G.M. AET 26. Exophthalmic Goitre on Thiouracil
10)32.9	2	28	3 days	Prematurity 2lbs 8 ozs.	Mrs. S. ? reason. AET 21.
11)35.2	1	40	24 hours	?Birth Shock Asphyxia P.M. Atelectasis	Mrs.H.W. Breech presentation. Full term. Normal delivery.

PREMATURE INFANTS - 1946

During the year 36 premature babies (weight standard 5½ lbs) were born - 8.2% of total births.

Of the 36 premature babies - 25 were discharged alive and well
9 died in the neo-natal period.
2 were still-born.

Combined S.B and N.N.D. rate of Premature Infants = 30.5%

BREAST FEEDING

Of 418 living babies discharged from hospital 19 i.e., 4.5% were wholly artificially fed.

22 babies, i.e., 5.3% received complementary artificial feeds on discharge.

90.2% infants discharged Fully breast-fed

5.3% " " breast-fed & complementary artificial feeds.

4.5% " " Fully artificially fed (4 on account Maternal tuberculosis
(2 transferred to B.C.Hospital
(1 unmarried girl for adoption
(12 Mothers failed to suckle their infants.

- - - - - - - -

FOETAL DISEASES & DEFORMITIES

1946

During the year the following were encountered:-

		Case Nos.
Melaena Neonatorum	2 Cases	18.4., 28.2
Spinal Meningocele	1 Case	29.10
Anencephaly	1 Case	26.6
Spina Bifida & Hydrocephalus	1 Case	4.7
Hydrops. Foetalis	1 Case	26.7
Icterus Gravis	1 Case	47.9
Sacral Cyst	1 Case	22.5
Hypospadias	1 Case	22.4
Mongolian Deficiency	1 Case	14.2
Extroversion of Bladder	1 Case	13.5
Congenital Heart Disease	1 Case	50.5
Congenital Hypertrophic Pyloric Stenosis	1 case	6.9
Ophthalmia Neonatorum	2 cases	

- - - - - - -

ANNUAL REPORT OF

THE LUCY BALDWIN MATERNITY HOSPITAL

STOURPORT-ON-SEVERN

WORCESTERSHIRE

1947

The Hospital consists of 18 beds, the isolation unit not being used throughout the year. Relaxation and sedation by Pethidene in the 1st stage of labour were used more extensively this year.

Booking was even more rigidly restricted than in 1946 to:-

1. - Primipara
2. - Bad Histories
3. - Difficult home conditions

Staffing difficulties restricted bookings further.

Total admissions	350	Booked	332
		Emergency	18

6 Patients were discharged undelivered and there were 2 abortions.

Total deliveries (excluding abortions)	342	Primipara	196)	i.e., 57.3% Primipara
		Multipara	146)	

Maternal Deaths - no mother died

Children born - 346 (including 4 sets of twins)

Live Births - 334

Still Births - 12

Still Birth Rate 34.7 per 1,000 live births.

Neo-Natal Deaths - 5

Combined Still-birth and Neo-natal death rate 49.1 per 1,000 Live Births.

Morbidity : 4 cases of Puerperal Pyrexia occurred (M.o H Standard), giving a Morbidity Rate of 1.14%

- - - - - -

BROW 2 cases obstructing labour, both converted to vertex under anaesthesia - all survived.

Case No.	Age	Gravida.	Maturity	Weight of child lbs.	Weight of child ozs.	Treatment	Result M.	Result C.	Remarks
1)12.2	23	2	40	8	4	Conversion to vertex under GA subsequent easy normal delivery.	A	A	Mrs. A. C.
2)20.10	23	1	40	8	12	ditto	A	A	Mrs. D. K.

FORCEPS - 1947

During 1947 there were 12 forceps cases, giving a Forceps Rate of 3.5%.
One baby was still-born, a deep transverse arrest.

Case No.	Age	Grav-ida.	Mat.	Indication	Any Pelvic Abnorm.	Duration of Labour		Weight of child	Result		1st Stage Sedation	Remarks
						1stSt.	2ndSt.		M.	C.		
1)37.2	24	1	40	F.Distress				lbs. ozs 6 7	A	A	Chloral & Seconal	Mrs. L. W.
2)38.9	29	1	38	F.Distress	Gen. Contrn.	6hr.20	2hr30	7 9	A	A	Nil	Mrs. H.
3)41.5	29	1	40	P.O.P. F. Distress		13. 15	2. 10	6 10	A	A	Nil	Mrs. L.G. Rotation to OA.
4)44.7	31	1	40	D.T.A. F.Distress		53hrs	4 40	8 3	A	SB	Chloral gr xx Peth mgms 200 Morph gr ¼	Mrs.P.K. V.difficult extract.
5)45.8	23	1	40	P.O.P. F. Distress	Gen. Contrn.	36 hrs	3. 50	6 7	A	A	Peth.mgms200 seconal grs 3	Mrs. V. Rotation to O.A. Pyrexia T. for 2-4th day ?chest
6)1. 7	31	1	40	P.O.P. F.Distress		13 hrs	3 15	7 7	A	A	Nil	Mrs. N.E.Rotation to O.A. Pyrexia 14th day.

Case No.	Age	Gravida	Mat.	Indication	Any Pelvic Abnorm.	Duration of labour		Weight of child.	Result		1st Stage Sedation	Remarks
						1st St.	2nd St.	lbs. oz.	M.	C.		
7)4.3	23	2	40	M.Distress		6hr.45	1hr.52	8 2½	A	A	Peth.100 mgms.	Mrs.R.T. P.P.H. 2nd. Forceps
8)4.6	43	4	40	F.M.Distress		29. 25	40	7 13	A	A	Peth.100 mgms.	Mrs.A.B. 3 Forceps prev. B.P.200/110 Emerg.Admiss:
9)10.1	34	2	40	Unco-operative mother.		6hr	1. 45	9 5	A	A	Peth. 100 mgms	Mrs.M. 2nd Forceps
10)15.1	19	1	40	F.Distress		12hr.	3hr.25	7 7	A	A	Nil	Mrs. F.W.
11)18.10	33	1	40	D.T.A.	Contr. Brim	29.45	2. 20	7 6	A	A	Peth. 200 mgms	Mrs. W. Pyrexia Swab-ve Pulm.Embol:
12)21.1	26	1	40	Foetal Distress		30 hrs	3 hrs	8 4	A	A	Peth. 200 mgms Seconal gr.1½	Mrs.V.

POST-PARTUM HAEMORRHAGE - 1947

During 1947 there were 14 cases in 342 deliveries - an incidence of 4.4%

Case No.	Age	Grav.	Mat.	Method of Delivery	Duration of labour	Cause	Amt. of loss ozs	Sedation 1st st.	Treatment	Result M.	Result C.	Remarks
1)38.10	31	4	40	Normal	8hrs. 35 min.	Ret,Plac	50	Nil	Manual Removal after 1 hr. 15 min.	A	A	Mrs. E.M.W. Baby 8lbs. 13 oz. Prev. list of P.P.H. Pyelitis.
2)49.6	29	2	37	Normal	18 hrs		30	Nil	Ecbolics	A	A	Mrs. P.
3)43.6	23	2	34	Normal	14 hrs	Ret. Cotyl	50	Nil	Ecbolics	A	SB	Mrs. G. WR +
4)43.9	28	1	40	Normal	19 hrs 50 min.		48	KBr & Chl. 30 gms.	Ecbolics	A	A	Mrs. J. M.
5)45.7	23	1	39	Normal	50 hrs	Atony	35	Peth.100 24 hrs before KBr & Chlor.	Ecbolics	A	A	Mrs. P. Tox. Big Baby 9 lbs. 1 oz.
6)47.7	19	2	40	Normal	5hrs 15 min.		30	Nil	Ecbolics	A	A	Mrs. P.
7)47.8	21	1	37	Normal	10 hrs 10 min.		30	Nil	Ecbolics	A	A	Mrs. H. APH Pyrexia TB
8)50.10	23	4	40	Normal	3 hrs.55 min		22	Nil	Ecbolics	A	A	Mrs. O. M.

POST-PARTUM HAEMORRHAGE - 1947 - CONTINUED

Case No.	Age	Grav.	Mat.	Method of Delivery	Duration of Labour.	Cause	Amt. of Loss ozs	Sedation 1st. St.	Treatment	Result M.	Result C.	Remarks
9)4.3	23	2	40	Forceps	8 hrs 22 m.		40	Peth.100 mgms	Ecbolics	A	A	Mrs. R. T.
10)11.9	37	6	40	Normal	2 hrs		40	ditto	Ecbolics	A	A	Mrs. F. Previous P.P.H. & Last 3
11)12.7	19	1	40	Normal	22hrs 30m.		60	Nil	Ecbolics	A	A	Mrs. S.
12)13.10	26	1	40	Normal	18hrs25 m.		40	Seconal gr iii Peth.350	Ecbolics	A	A	Mrs. N.J. Pyelitis
13)15.7	26	2	40	Normal	11hrs40 m.	Retained Placenta	50	Peth.100	Ecbolics	A	A	Mrs. F.
14)20.2	26	1	40	Normal	8 hrs25 m.		40	Nil	Ecbolics	A	A	Mrs. B.

MORBIDITY - 1947

4 cases of Puerperal Pyrexia occurred during 1947, a Morbidity Rate of 1.17%

Case No.	Age	Grav:	Mat.	Cause	Post-Natal stay in Hosp.	Result M.	Result C.	Remarks
1)47.8	21	1	37	T.B.	18 days	A	A	Mrs. H. Active T.B. P.P.H No sedation.
2)9. 6	35	4	40	?	12 "	A	A	Mrs. M. No cause found. Normal delivery. No sedation. Old ulcerative colitis
3)14.8	30	1	40	Otitis Media	12 "	A	A	Mrs.S. K.Br & Chloral only Normal delivery.
4)18.10	33	1	40		43 "	A	A	Mrs. W. Forceps. Pulmonary Embolism. 100 mgms Peth.

In no case was a haemolytic strep. isolated.

CAESAREAN SECTION - 1947

This was performed on six cases during 1947, an incidence, of 1.75%. One baby died a few hours after birth of Atelectasis, and had a **Patent Foramen Ovale & Ductus**
No case was far advanced in labour, all operations being planned beforehand.

Case No.	Age	Grav.	Maturity	Indication	Weight of child. lbs. ozs.	Result M.	Result C.	Type of Operation	Remarks.
1)40.6	35	3	38	Disproportion.	7 4	A	NND	Classical. Sterlisation Not in lab.	Mrs. M. Mr. C.
2)50.8	42	2	39	"	6 12	A	A	Classical Sterlisation Not in lab.	Mrs. L. Mr. C.
3) 2.10	26	2	40	"	6 12	A	A	Classical Not in lab.	Mrs. O. Mr. C.
4) 6. 7	43	1	40	"	6 14	A	A	Classical Not in Lab.	Mrs. W. Mr. C.
5)11.2	22	1	40	"	7 2	A	A	Classical Very early in labour	Mrs. M. Mr. C.
6)20.6	32	3	40	"	7 -	A	A	Classical Sterlisation. Not in labour.	Mrs. A. Mr C. **Congenital Disloc. hip**

14.

PAEDIATRIC REPORT - 1947

In 1947 there were 346 births (including 4 sets of twins). Of these 334 were live births. Abortions have been excluded. There were 12 still-births and 5 neo-natal deaths. Still-birth rate 34.7 per 1000 live births. Combined SB and N.N.D rate 49 per 1000 Live Births

STILL-BIRTHS

Case No.	Mother Age	Grav.	Mat.	Cause	Weight of child. lbs.	ozs.	Sedation,	Remarks
1)38.6	31	2	30	Anoxaemia Early Sepn. of Placenta giving A.P.H.	4	8	None within 14 hrs a.n	Mrs. W. Bipolar Version
2)42.5	19	0	38	Doubtful	6	5	None	Mrs. S. Macerated mild pyelitis
3)44.7	31	1	40	Birth Injury Diff.Forceps 58 hrs labour	8	3	Nothing within 10 hrs a.n.Chlor: & Peth.200 24 hrs before. Morph.gr $\frac{1}{4}$ 10 hrs a.n.	Mrs. P. K.
4) 45.10		2	38	Foetal Ascites 2nd twin	6	2	nil	Mrs. B. 1st twin 3 lbs 15$\frac{1}{2}$ z. A & W.
5) 49.8	23	2	?29	Prem.1st Twin Toxaemia ++	2	8	Nil	Mrs. I. R.
6) 49.8	23	2	?29	Prem.2nd twin Toxaemia.	2	-	Nil	Mrs. I. R.

75.

PAEDIATRIC REPORT - 1947 (CONTINUED)

STILL-BIRTHS

Case No.	Mother			Cause	Weight of child		Sedation	Remarks
	Age	Grav.	Mat.		lbs.	ozs.		
7)5.10	31	1	39	? Asphyxia ?Birth Injury Breech Forceps to Head	6	4	Nil	Mrs. K. P.
8)7.10	35	1	40	?	9		Peth.200 mgms 4 hrs($\frac{3}{4}$hrs last a.n. dose)	Mrs. W. H. 10 hour labour all investign. neg.
9)18.2	31	1	37	Prolapse of Cord Toxaemia Breech Extrn.	4$\frac{1}{2}$		Nil last 24 hrs a.n. G.A.for delivery.	Mrs. S. (D.Smyth) Toxaemia
10)19.1	36	2	30	Toxic Prem.	1	12	Nil	Mrs. P. Macerated
11)19.10	30	1	36	?	6		Peth.100. Seconal ~~gr~~ 1$\frac{1}{2}$ 2 hrs a.n.	Mrs.V.K. Macerated X-Ray showed death a.n.
12)21.5	37	2	36	?	6		nil	Mrs. W. Macerated Slight A.P.H.

NEO-NATAL DEATHS - 1947

Case No.	Age	Mother Gravi:	Mat:	Time of death	Cause	Weight of child	Sedation	Remarks
1) 38.3	31	1	? 36	3rd day	?	5lbs 5 oz	Chloral gr xx 1hr 20 a.n	Mrs. M.B.
2)40.6	35	3	38	12 hrs	Atelectasis Patent Ductus & Foramen.	7 4	N_2O, O_2 & E at oper.	Mrs.M. 3rd Caesa.Dispro.
3)43.6	23	1	34	1st day	Syphilis	4 2	nil	Mrs.T.G.
4)44.6	23	1	32	4 hrs	?	4 6	nil	Mrs. M. Pre-natal ?pleur-isy.
5)15.5	29	2	?40	1 hr	Foetal Ascites	8 $8\frac{1}{2}$	Peth.twice 200mgms total last 100 given 3 hrs 20 a.n. Seconal gr $1\frac{1}{2}$ given $1\frac{1}{2}$ hrs a.n.	Mrs.D.S. Hydramnios No note of W.R. Rhesus +

77.

50 CONSECUTIVE CASES ATTENDED BY DISTRICT MIDWIVES WERE PERSONALLY INTERVIEWED ON DAY OF DELIVERY. CASE RECORDS AS FOLLOWS:

Case No.	Patient	Age	Grav.	Status of Husband	Gestation in weeks	LABOUR 1st St. hr.min.	LABOUR 2nd.St. hr. min.	LABOUR 3rdSt. hr.min.	Total Duration.	Weight of child lbs.oz.	Complications	Remarks
PRIMIGRAVIDAE (9)												
1	Mrs. S.	21	1	Bricklayer's Labourer.	42	23.30	1. 15.	15 spont.	25hrs	6 cried at once	DISSATISFIED	" I hated it when head was coming. "
2	Mrs. D.	24	1	Labourer	40	20	1. 55	5 spont.	22	6 cried at once	DISSATISFIED	"I thought it was pretty stiff. It hurt very much just before the head came
3	Mrs. P.	24	1	Grocer's Asst.	41	25.30	1.	15	26.45	7½ cried at once	SATISFIED Compensat. Heart.	"I thought it was going to be far more painful than it was". Fat, cheerful.
4.	Mrs.E.B			Shop Asst.	38	11.30	30	10	12.10	8 2 cried at once	SATISFIED	"Not too bad; you soon forget it".
5	Mrs. B	23	1	Farm Lab.	40	13.50	35	2-3	14.28	6 cried at once	SATISFIED	"Towards the end it hurt, but I was not in it long enough to suffer. I had practised relaxation.

Case No.	Patient	Age	Grav.	Status of Husband	Gestation in weeks	LABOUR 1st.St. hr.min	2nd St. hr. min	3rd St. hr.min.	Total Duration hr.min	Weight of child lb.ozs.	Complications	Remarks
6	Mrs.J.B.	25	1	Dyehouse Labourer	37	12.45	15	15	13.15	6. 4 CRIED at once	SATISFIED	"I never felt much of it. B.B.A. slept until ¼ hr of baby's birth".
7	Mrs.D.	25	1	Labourer	42	104. 0	2.	15	106.15	6 14½ good.	DISSATISFIED	"Whenever nurse left the pains became agonising". Hysteric & worried family. Eventually admitted to Hosp. inspite of Peth.Chlor.& KBr. Finally Morph. gr. ¼
8	Mrs.L.	26	1	Painter & Decorator.	40	7.15	45	10	8.10	6. 4 CRIED at once	DISSATISFIED	"I thought I was going to die once or twice. Terribly painful when baby born." Pain comfined to 2nd. Stg.
9.	Mrs.K	32	1	Farm Labourer	40	15.	2.35	15	17.50	7. CRIED at once	DISSATISFIED	"I could not have gone on much longer - it was terribl Would have benefited greatly with Peth. Two nights befor without sleep. Minnitt. 3 hours at least ! (new apparatus)

50 CONSECUTIVE CASES ATTENDED BY DISTRICT MIDWIVES
(CONTINUED)

MULTIGRAVIDAE (41)

Case No.	Patients Name & Opinion	Age	Grav.	Status of Husband	Gestation in weeks	LABOUR 1st.St. hr.min	2nd.St hr.min	3rd.St hr.min.	Total Duration hr.min	Weight of child lbs.oz	Complications	Remarks
10	Mr.G. Satisf.	29	4	Farm Labourer	41	8 30	20	20	9 10	8½ cried at once	nil	Had an uncomfortable afternoon. Went to bed only at very end. Nurse came just in time. Likes and 'gets a kick' out of natural birth.
11	Mrs.T Doubtful	26	3	Time Study Engineer	41	8 45	?2	8	10 53	7.10 cried at once	Free loss 16oz clot looks pale Infreq. pains ? Inertia	Had a sleepless night. Would not like to be asleep when baby born. Gas helped a lot with 2nd.
12	Mrs.D Satisf.	40	4	Timber Feller	?40	26¾?	?1	15	?28	7.11 cried at once	Free loss	1st. S.B.Toxic. Would prefer to leave it to natu (See remarks) Pain minimal except last 2, and afraid that all may not be well.
13	Mrs.H. Dissat:	27	2	Farm Labourer	41	24	10	2	24.12	7 cried at once	nil	Peth.& Seconal given 9 a slept 4 hrs. Kept begging nurse to send for doctor
14	Mrs.L Dissat:	28	2	Mechanic	38	13.25	15	10	13.50	7 cried at once	Nil	Actual birth pains made me shout - frightful pains. Prefers gas she had at end with 1st.

50 CONSECUTIVE CASES ATTENDED BY DISTRICT MIDWIVES (CONTINUED)

Case No.	Patient's Name & Opinion	Age	Grav.	Status of Husband	Gestation in weeks	LABOUR 1stSt hr.min	LABOUR 2nd St hr.min	LABOUR 3rd.St hr.min.	Total Duration hr.min	Weight of child lbs.oz.	Complications	Remarks
15.	Mrs. T. Satisfied	24	2	Fitter	39½	14	30	15	14 45	8 cried at once	Stitch with Trilene felt it +++	Worst part towards the end of the 1st.St. Prefe the company of someone she knows to anaesthesia
16.	Mrs. K. Dissatisf:	27	2	Sales Clerk	40	4½	30	15	5 15	6¾ cried at once	Stitch	Not too bad. Would not have liked it to have lasted longer. Felt better sooner than 1st time & not so tired.
17	Mrs. H. Dissatisf:	34	2	Mechanic	39½	9 25	20	15	10	8¼ cried at once		Shouted for Mother towards the end. Granny doesn't want to hear aga Fear > 1st baby
18	Mrs. T. Satisfied	25	2	Toolmaker	40	30	20		50	9¼ cried at once		A few pains but nothing really to talk about.
19	Mrs.J.R. Dissatisf:	25	3	Small-holder	39	17	40	25	18 5	8lbs cried at once	Stitch P.P.H. 2Qoz	'Terrible' pains. Said she was going to poison herself. Very trying p all day.

18

Case No.	Patient's name & opinion	Age	Grav.	Status of Husband	Gestation in weeks	LABOUR 1st.St. hr.min	LABOUR 2nd.St. hr.min	LABOUR 3rd.St hr.min	Total Duration hr.min.	Weight of child lbs.oz.	Complications	REMARKS
20	Mrs. D. Dissatisf:	29	4	Goods Guards GWR	41	9 15	30	5	9 50	8½ cried at once		I tried to relax until pai got too bad I didn't know what I was doing. Childre had to be sent out of hous Cries heard by husband 200 yards away.
21	Mrs.B. Dissatisf:	36	3	Gents Outfitter	41	6	45	15	7	8lbs cried at once		A wonderful experience. I relaxed well, but 5 minute hell at end. I wish I'd had my doctor then.
22	Mrs. S. Dissatisf:	28	4	Bricklayers Labourer	40	5	10	20	5½	8lbs cried at once		Baby is born just when you think you can't stand any more.
23	Mrs.A.M. Satisfied	25	4	Loom Turner	40	10. 35	20	10	11 5	7½ lbs. cried at once.		Pretty rough going but worth it in the end. Would prefer no anaesth: Knows nil of relax: awake all ng
24	Mrs. H. Satisfied	28	2	Engineer	42	10	30	15	10¾	8½ lbs. cried at once		It is a miracle. You soon forget horrible pain. If hadn't gone thro' it a bit my husband wouldn't have been so nice to me It don't seem natural not to go thro' with it.

50 CONSECUTIVE CASES ATTENDED BY DISTRICT MIDWIVES (CONTINUED)

Case No.	Patient's name & Opinion	Age	Grav.	Status of husband	Gestation in weeks	LABOUR 1st.St. hr.min	2ndSt. hr.min	3rd.St hr. min	Total Duration hr.min.	Weight of child lbs.oz.	Complications	Remarks
25	Miss D.S Dissatis:	20	2	Patient is Foundry worker	36	16 30	30	1 30	18½hrs	5 cried at once		Awful pains before birth.
26	Mrs.T. Dissatis:	37	2	Furnaceman	40	17	45	10	17.55	8lbs. cried at once.		I was very glad when baby born to be out of my suffering. My first thought do I need Dr.for a stitch? Is it not unnatural to no feel pain of childbirth ? Remembers pain of 1st stitch 6 years before.
27	Mrs. T. Satisfied	26	2	Clerk	40	3	30	10	3.40	8. 2. good		Pract: painless labour.
28	Mrs. P. Satisfied	32	3	Instrument mechanic	41	1	?	30	1.30	6½ lbs cried at once.	B.B.A.	One severe pain & baby born.
29.	Mrs.L.C. Satisfied	29	2	Carpet Weaver	40	11	20	20	11.40	6½ lbs cried at once.		It is bad at the time but you forget immediately af I had a trial labour with first baby & had C.S.hanging over her. I can stick it out whereas some need something to quieten them.

83.

50 CONSECUTIVE CASES ATTENDED BY DISTRICT MIDWIVES (CONTINUED)

Case No.	Patient's name & Opinion	Age	Grav.	Status of husband	Gestation in weeks	LABOUR 1st.St. hr.min	LABOUR 2nd.St. hr.min	LABOUR 3rd.St hr. min.	Total Duration hr.min	Weight of child lbs. oz.	Complications	Remarks
30	Mrs.D.J. Satisfied	25	4	Bus Driver	40	4 50	25	15	5½	6 4 cried at once.	Free loss. 16 oz. but good colour	A.P.H. a fortnight befor Had a bad time with 1st baby, but after you know what to expect I don't think you mind.
31	Mrs.I.T. Satisfied	35	8 ?	Soldier	42	14 30	5	20	14.55	8 8 cried at once.		Last 2 pains sharp, the rest nothing. I always have a good time and nev much pain.
32	Mrs. R. Doubtful	39	6	Kiln Operator	40	7 40	?1	15	8.55	9 cried at once.	Stitch	The last hour was very painful. Some of the aft pains are worse than the labour pains. I hope I never have more. ?Exagg.
33	Mrs.D.S. Satisfied	32	4	Engineer	41	4	15	5	4.20	7 4 cried at once		I would not miss it for worlds. I do not want anaesthetic.
34	Mrs.N.F. Dissatis:	28	3	Lorry Driver	41	5. 5	45	20	6.10	8. cried at once.	Stitch	Quite difficult & painfu delivery(Nurse). Hurt me more than other 2, espec ially when head coming.

84.

50 CONSECUTIVE CASES ATTENDED BY DISTRICT MIDWIVES (CONTINUED)

Case No.	Patient's name & Opinion	Age	Grav.	Status of husband.	Gestation in weeks	LABOUR 1st.St hr.min	LABOUR 2nd St hr.min	LABOUR 3rd St. hr. min.	Total Duration hr.min	Weight of child lbs.oz.	Complications	Remarks
35	Mrs. P. Dissatis:	25	2	Farm Labourer	40	3 30	1 55	10	5 35	9 cried at once.	Bad tear	Tried relaxation with 1st having read Dick Read. This dely not so painful but pretty bad. Wants help with next.
36	Mrs.H. Satisfied	29	3	Railway Porter	40	12 45	? 30	5	13. 20	?5½ cried v. feebly	Breech	Infant died Asphyxia. Easiest time I've had. Hare lip and cleft palate.
37	Mrs.E.M. Dissatis:	27	2		38	2	1	15	3. 15	6¾ cried at once.	Stitch	Cried out as being born. Hand in front of head. 1st not painful at all tho' stitch.
38	Mr.H.R. Satisf.	25	3	Labourer	42	15	25	15	15.40	7½lbs cried at once.		Prenatal version wk before A bit sharp as shoulder can I can stand discomfort & I don't think I needed anything.
39	Mrs.D.B. Satisf}	30	3	Labourer	40	6 15	15	15	6.45	6¾lbs cried at once	Stitch	Gradual PPH after 3rd stage 24 oz. Did not feel tear, a bit painful with head passing but would not like anaesthetic. No postnatal instruction.

50 CONSECUTIVE CASES ATTENDED ON THE DISTRICT BY MIDWIVES (CONTINUED)

Case No.	Patient's name & opinion	Age	Grav.	Status of Husband	Gestation in weeks	LABOUR 1st St. hrs.min	2nd St hr.min	3rd St. hr.min.	Total Duration hr.min	Weight of child lbs.oz.	Complications	Remarks
40	Mrs.F.T. Satisfied	29	4	Roller man.	39	2	25	20	2. 45	7½ cried at once.		2 good pains and baby born V.sharp as baby being born but e asy to put up with. Pushes down with every pai never heard of relaxation No anaesth: wanted.
41	Mrs.C. Dissatis:	35	2	Clerk	40	24.10	20	15	24.45	10½lbs. good. PPH 24 oz.	Stitch Inertia at ½ Dilatn.	Awake all night 1st night. Up and cooked a dinner nex a.n. Membrane rupt. 7 p.m Doctor sent for 1 a.m. ½ dilatation pains & no prog. subseq.normal in Hosp. 7 p.m.
42	Mrs.H. Disaatis:	27	3	Carpet Worker	39	8.45	15	15	9.15	5lbs 8oz cried at once		I do not think the end is bad, it is when the pains are awful & you can't do anything to help. Her 1st Baby in L.B.M.H. with gas air was best.
43	Mrs.O'N Satisfied	27	3	Carpet Worker	40	4.30	30	15	5.15	9 lbs. cried at once.	PPH 20 oz.+ but good colour	I was surprised at ease o baby's arrival. No need anaesth.

50 CONSECUTIVE CASES ATTENDED ON THE DISTRICT BY MIDWIVES(CONTINUED)

Case No.	Patient's name & opinion	Age	Grav.	Status of husband	Gestation in weeks.	LABOUR 1st.St. hr.min	2nd.St. hr.min	3rd.St hr. min.	Total Duration hr.min.	Weight of child. lbs. oz.	Complications	Remarks
44	Mrs.E.C. Dissatisf:	36	2	Labourer	40	7.45	30	15	8.30	6. 8 cried at once.	Free loss 20 oz. but good colour.	The last half hour is pretty bad. Nurse explained relaxation and it helped a bit.
45	Mrs.D,W. Dissatis:	28	3	Roller man	42	2.50	5	17	3.12	7. 8 cried at once.	Head de'ld in transverse	Real hard work pushing it out. It is not pleasant.
46	Mrs.R.H. Dissatis:	27	3	Labourer	38	14.20	10	15	14.35	7. 8 cried at once	Stitched 2	It was very sharp. It made me shout towards end
47	Mrs.M.M. Satisf.	33	3	Steel Worker	39	21.30	30	30	22.30	6. 8 cried at once.	Looks pale free loss.	It isn't very terrible. Woulr prefer no anaesth.
48	Mrs.J.R. Dissatis:	26	2	Labourer	40	12.30	25	10	13. 5	7. 12 cried at once	Looks pale normal loss	It was more painful than last time. I had gas & air & it was a comfort.
49	Mrs.D.P. Dissatis;	27	2	Carpet Worker	42	4.10	20	15	4.45	7. 8 cried at once	Normal	Shouted at end. I would have liked something to help.
50	Mrs.W. Doubtful	33	3	Electro-plater	40	11.40	10	1	11.51	7 8 cried at once	Stitched	Did not miss Gas & air h first time. It is that much painful that you kn it is not going on long you push hard

128

TRILENE CASES IN HOSPITAL

"Private Booked" cases delivered by doctors in RED. S.G. signifies Siebe-Gorman Apparatus.

No	Age	Grav.	Mat.	Preg:	LABOUR 2nd St. hr.	min.	Weight of child & Condition	Remarks	Sedation 1st. St.	Sedation 2nd St.	Patient's opinion	Remarks
1	30	2	39	Normal		25	7lbs.10 good	T. P.	Nil	Gas & Air Tril.25 min. S.G.	Doubtful	Mrs. C. Noisy. Gas & ai failed first. Trilene definitely more effecti
2	27	1	39	Mitral Stenosis	3	20	6lbs.14½ good	Episiot Local	Peth. 100	S.G.Tril: 30 min. sparingly	Satisf:	Mrs. E. D.
3	34	1	39	Normal	1	17	6lbs.13 good	Episiot Local	Peth 200	Tril. S.G. -1hr 10. V.A.M. 7min.	Dissat:	Mrs. D. 7 min. a.n. "When am I to have my anaesthetic?"
4	20	1	41	Normal	3	10	7lb.15 Moulding ++	Episiot Tril:	Peth 200	Tril. 3 hrs bt.pains SG	Satisf:	Mrs. D.D. Very hard pus "Marvellous stuff"
5	22	1	40	Normal	2	10	6lbs.8¾ Asphyxia	Assisted breech forceps to head Episiot. LOCAL.	Peth 100	Gas & Air Tril.10 min. S.G.	Satis.	Mrs.M.E. Given for del only.
6	30	3	38	Anaemia		15	6lbs.1½ sleepy with Peth	Free loss 20 oz.	Peth 100	Tril. S.G. 50 min.	Satis.	Mrs. F. Stopped T twic during pain to enable pushing. Amnesia excell. asked twice if had baby.
7	35	1	41	Normal		30	7lbs.15oz good	Mild Inertia ½ dilat.	Peth 100	Tril.30 min S.G.	Satis.	Mrs. B. Helped relaxati at end of 1st stage ++ & at delivery.
8	26	1	38	Toxaemia Drew-Smyth induction	1.	35	5lbs.14½ ++ moulding + asphyxia shock	Hard push in 2nd stage Infant del'd in lateral diameter Episiot.	Peth 100	Tril. Freedman 's bottle 2.10 given between pains in 2nd st.	Satis.	Mrs. C. Never felt anything, painful inc. Episiot & Stitching.

88

TRILENE CASES IN HOSPITAL (CONTINUED)

"Pivate booked" cases delivered by doctors in RED .S.G.Signified Siebe-Gorman Apparatus.

No.	Age	Grav.	Mat.	Preg.	LABOUR 2nd. St. hr.	min.	Weight of child & condition	Remarks	Sedation 1st. St.	2nd. St.	Patient's opinion	Remarks
9	30	1	36	Twins mild Tox.	2.	30	3lbs.10½ 5lbs.9½ 1st.fair 2nd.good		Nil	Tril.50min Gas & Air 20 min.	Doubtful	Mrs.B. Drowsy tired Minnitt did not help. Tril. + some relief. Diff. to administer suff in view short infre.pair
10	29	2	40	Normal		8	7lbs.12 good	Free loss 20 oz. Mother hysterical at ¾ dilat. Pulse rate 72 a.c.d.	Peth. 100	Tril.Free-dman 22 min.	Dissat:	Mrs. B. 'It hurt but certainly better than last time.
11	39	2	40	Normal		15	8lbs.10 good	T.P.Trilene	Peth 100	Tril.25 min. Free-dman.	Satis.	Mrs.B.C. 'It gave me a marvellous feeling as i in a dream.
12	25	1	41	Mild.Tox.	1.	0	6lbs.8. V.Limp severe asph. Pallida. Skinny Toxic baby.	T.P.Trilene	Peth 100	Tril.45 min Siebe-Gorman	Doubtful	Mrs.B. Cried out with birth of head. Puerpera mild psychosis.
13	24	1	41	Free Head at 39 wks referred to Consul.Clinic	2	10	7lbs.15. ++ moulding Asphyxia Livida.	Episiot. c Nov-utox 2% Free loss 20 oz. HG.50% 2 days p.n	Peth 200	Tril.5 mins.S. G. Local infilt. worked well.	Satis:	Mrs.B. Short mild pains but reg.every 2 mins. throughout 2hr.10 .Pain not marked.
14	27	1	40	Mild Pyelit is.	1	20	7 lbs.12 good.	Episiot.	Peth 100	Tril.1hr.5min Freedman.	Satis.	Mrs.I.B. 'Is my baby here' 10 min.a.n. 'It seems all a dream.

89.

TRILENE CASES IN HOSPITAL (CONTINUED)

"Private Booked" Cases delivered by doctors in RED . S.G. signifies Siebe-Gorman Apparatus.

No	Age	Grav.	Mat	Preg	LABOUR 2nd St. hr. min	Weight of child & condition	Remarks	Sedation 1st. St.	Sedation 2nd. St.	Patient's opinion	Remarks
15	35	3	39	Toxaemia B.P. 180/110 Albu. trace	10	8lbs. good	Rapid labour P.P.H. 25oz.	Peth 100	Tril. 10 min. Freedman	Satisf:	Mrs. B. Very effective analgesia.
16	20	1	40	Normal	30	6lbs.8 good		Peth 100	Gas & Air Trilene 10 Freedman.		Mrs. M.B. Analgesia fair Amnesia good, Tril. more effective than Minnitt.
17	34	1	40	Drew-Smyth Freehead.	1 20	6lbs.15 good.	Episiot	Peth 200	Tril.45 min S.G.	Satis:	Mrs.B.
18	25	2	40	Normal	20	8lbs.6oz good	Normal	Peth 200	Tril.30 min.S.G.	Satis.	Mrs.G.
19	19	1	41	Pyelitis	40	8lbs.12½	Normal	Peth 100	Tril.40 min.Freedman	Satis.	Mrs.G. Forgot where she was Obeyed all instructions. 'Marvellous'
20	28	1	39	Normal	4. 25	6lbs.10½	Notifiable Pyrexia Hard Push Episiot.	Peth 100	Tril.2hrs S.G.	Doubtful	Mrs.K.G. 'It takes your mind off it" A difficult long 2nd stage.
21	21	1	40	Normal	15	7lbs.4 good	Normal	Peth 150	Tril.15 min.Freedman	Satisf:	Mrs.G.
22	30	3	40	Drew-Smyth for history diff. labour	50	8lbs.5 good.	Slow advance in 2nd stage.	Peth 100	Gas & Air 10 min. Tril45min Freedman.	Satisf;	Mrs.M.G. Conscious of baby being born but very quiet co-op and not in pain.

90.

TRILENE CASES IN HOSPITAL (CONTINUED)

"PRIVATE BOOKED" Cases delivered by doctors in RED. S.G. signifies Siebe-Gorman Apparatus.

No.	Age	Grav.	Mat.	Preg.	Labour 2nd. St. hr. min.	Weight of child & condition	Remarks	Sedation 1st. St.	Sedation 2nd. St.	Patient's opinion	Remarks
23	41	2	37½	Bad history. Normal. Induct. of Prem. labour	2 0	7lbs.½ cried at once. moulding++	N.N.D. Subdural Haem. 9th day. Tril. given between pains with little effect	Peth. 100	Tril. 30 Freedman	Dissatis:	Mrs. V.G. Ineffective Contractions. Known narrow outlet, Fundal pressure & Episiot used for dely Pitocin·25 cc once a.n.
24	33	2	39	Threatened miss 3rd mth normal since	50	7lbs 9 good	Episiot local	Trilene total 2hrs		Dissatis.	Mrs. H. Short ineffective pains. Rigid fibrous Per; "More painful than with 1st baby".
25	26	1	39	Normal	2 30	7lbs.6½ good.		Peth. 100	Tril. S.G. 45min	Satisfied	Mrs. H. 'Made her feel quiet & dopey and no pain with birth"
26	26	1	38	Tox.& Pyelitis Drew-Smyth Induction	30	6lbs.6 good.	P.P.H. 36oz.	Nil	Tril. S.G 30 min.	Satisfied	Mrs. H.
27	19	1	41	Normal	3. 15	7lbs.8 good.	Episiot & Tril. P.P.H. 20oz. 1 hr later.	Peth 100	Tril. S.G 2hrs. 30	Satisfied	Mrs. E.H.
28	21	2	41	Normal	30	8lbs.11¼ Good	Normal	Peth 100	Tril. S.G. 20min.	Satisfied	Mrs. S.H.
29	21	1	41	Normal	1. 0	7lbs.13½ good.	Normal	Peth 100	Tril. S.G. 1hr	Satisfied	Mrs. I.I.
30	22	1	42	Normal	2. 10	8lbs. good.	T.P. Trilene	Nil	Tril. ½hr S.G.	Satisfied	Mrs. I.J. V. Co-operative.

TRILENE CASES (CONTINUED)

"PRIVATE BOOKED" CASES IN RED

No	Age	Grav.	Mat.	Preg.	LABOUR 2nd.St.	Weight of child & condition	Remarks	Sedation 1st.St.	Sedation 2nd.St.	Patient's opinion	Remarks
31	42	1	41	Normal	1hr.35	6lbs. 3 good.	Episiot & Tril.	Peth. 200 G & A ½ hr.	Tril. 35 min S.G.	Satisfied	Mrs. K.
32	29	1	40	Normal	1hr 55	7lbs. 6oz good	Episiot & Tril.	Peth. 100	Tril. S.G. 35 min.	Satisfied	Mrs. K. Felt no pain.
33	23	1	42	Normal R.O.P. on admission	30	8lbs.13 good	Episiot & Tril.	Peth. 200	Tril. Freedman 40 min.	Satisfied	Mrs.K. 2nd St.not at all uncomfortable.
34	39	2	41	Normal	25	6lbs.14½ good.		Peth 100	Tril. S.G.	Satisfied	Mrs.L. 'Marvellous'.
35	22	2	40	APH 7th month.	35	9lbs.5 good.	POP	Peth 100	Tril. Freedman	Satisfied	Mrs.R.L. Difficult push. "Seemed to make me all hazy". Analgesia good.
36	32	2	40	Normal	20	7lbs 2 good	Normal	Peth 100	Tril. Freedman	Satisfied	Mrs.L. "Wonderful".
37	19	1	38	Normal	1hr 55	6lbs14½ good		Peth 100	Tril.S.G. 1 hr	Doubtful	Mrs.L.
38	32	2	40	Normal	18	7lbs.8 good	Episiot	Peth 50	G&Air ½ hr. Tril.16m. Freedman	Satisfied	Mrs.G.L.

42.

TRILENE CASES (CONTINUED)

'Private Booked' Cases in red.

No	Age	Grav.	Mat.	Preg.	LABOUR 2nd.St hrs min	Weight & condition of child	Remarks	Sedation 1st.St.	Sedation 2nd St.	Patient's opinion	Remarks
39	18	1	41	Normal Free head 'till onset lab:	20	6lbs15 good.	Tear P. Tril:	Peth 100	Tril. 30 min. Freedman.	Doubtful	Mrs. F.L. 'I felt the hea not unduly painful! Stitch very sharp.
40	35	3	41	Normal	15	7lbs.12 good	1st.degree tear	Peth 200	Tril.35 min.Freed:	Doubtful	Mrs.M. Amnesia good analgesia only fair
41	23	1	40	Normal	35	6lbs 8 good	Episiot Local	Peth 100	Tril.35 m. Freedman	Satisfied	Mrs. N.
42	42	4	39	Normal	20	7lbs. good	Normal	Peth 100	Tril.20 min. F'man	Satisfied	Mrs.O.Good effect. Does not remember birth of hea
43	24	1	42	Mitral Ste-nosis Compens.	2. 20	9lbs.5 mild asphy: Livida	Episiot.Local	Peth 100	Tril.+02 in Boyles App.	Satisfied	Mrs. P.
44	26	2	40	Normal	1. 5	8lbs 7¼ good	Spont. P.O.P. No tear	Peth 100	Tril. S.G. at 5.	Satisfied	Mrs.J.P.
45	32	3	40	Normal	15.	9lbs1 good	T.P.	Nil	Tril.SG at 5	Satisfied	Mrs.M.P.
46	20	1	38	Normal	45	7lbs ¾ Cried at once. then oligopnoea	Normal	Peth 100	Tril.SG	Satisfied	Mrs.J.P. Very co-opera-tive
47	24	2 1st f'ceps	40	Normal	10	7lbs.12 good.	1st.Degree Tear PPH 24 oz. & again 25 oz 11th day	Peth 100	Trik. Freed'n	Satisfied	Mrs.D.P.. 'Seemed to deaden pain and help a lot'.

93.

TRILENE CASES (CONTINUED)

'Private Booked' Cases in Red.

No	Age	Grav.	Mat.	Preg.	LABOUR 2nd St hrs.min.	Weight of child & condition	REMARKS	SEDATION 1st. St.	SEDATION 2nd St.	Patient's opinion	Remarks
48	24	1	37	Normal	45	6lbs5½ Asphyxia Livida.	1st Degree tear Foetal heart slowed to 98 end of 2nd stage. Tril.stopped Pt.cyanosed. F.P.to exp.delivery & Tril. for dely. Maternal pulse slow 60 & dropped to 54.	Peth 100 1hr50 an	Tril.SG5 30min+ 5 min.	Doubtful.	Mrs.P.
49	24	1	? 36	Normal	10	6lbs 5 good	Normal	Peth. 100	Tril.10 min.F'man	Satisfied	Mrs.P.
50	26	1	39	Normal excp. Breech ver: under GA. unsuccessfl	20	4lbs.12 good	Normal. Episiot Tril.Stitch with Tril.painful.	nil	Tril.20 m.	Doubtful	Mrs. M.
51	22	1	40	Normal	1. 5	6lbs 5 good.	Episiot.Local Deld. P.O.P.	Peth 300	Tril.SG 1hr.	Doubtful	Mrs.R.
52	20	1	40	Free Head at term.	50	8lb. good.	Episiot. Tril.	Nil	Tril SG	Doubtful	Mrs.M.E. 'Helped but not enough.'
53	24	1	38	Normal	1. 15	5lbs.12 good.	Normal	Peth 100	Tril.SG.	Doubtful	Mrs.C.R. Very unco-o Would not take T.at first but after a go talking to she did. It helped greatly.
54	24	1	42	Normal	40	7lbs.13 good.	Normal	Peth 100	Tril. F'man.	Satisfied	Mrs.M.S.'I thought I fell asleep & would have it all to go th again on waking.

94.

TRILENE CASES (CONTINUED)
Private Booked Cases in Red.

No.	Age	Grav.	Mat	Preg.	LABOUR 2nd. St. hr. min	Weight of & condition of child	Remarks	SEDATION 1st. St	SEDATION 2nd St.	Patient's opinion	Remarks
55	24	1	39	Normal	40	7lbs.4½ good moulding ++	1st Deg.tear	Peth 100	Tril.SG.5	Satisfied	Mrs. D.S. Did not feel baby's birth.
56	30	1	39	Normal Free Hd. 8yrs married.	1. 15	7lbs. 8 good	Episiot w Tril.	Peth 200	Tril.SG.	Doubtful	Mrs. W. S.
57	33	2	38	Mild.Tox.	25	4lbs.14. good.	Normal	Peth 100	Tril. F'man	Satisfied	Mrs.L.S. Very good analgesia.
58	24	2	40	Normal	5	7lbs.7	Normal	Peth 100	Tril. F'man	Satisfied	Mrs. S.T
59	33	1	38	Toxaemia	1. 50	5lbs.1¾	Episiot	Peth 200	Tril. F'man.	Doubtful	Mrs.B.S. Between pains given very lightly. Did not know until shown baby
60	20	1	40	Normal	1. 20	7lbs.12	1st.Deg.tear	Nil	Tril.SG	Satisfied	Mrs.T. I was in such a daze I never felt anythi
61	20	1	38	Normal	40	6lbs.1 good.	2nd.Deg.tear	Nil	Tril,S.G.	Satisfied	Mrs.D.
62	35	1	41	Normal	40	7lbs.2 good	Episiot.	Peth 100	Tril.SG	Satisfied	Mrs.T. No pain. Very dif from what expected.
63	23	1	41	D.Smyth 1 week prev. Dispn.	1. 20	8lbs. good.	Normal until 2 pints+ PPH. 40ozs+	Peth 250	Tril.SG	Satisfied	Mrs.T.
64	22	1	40	Free Head normal	30	7lbs. good.	Normal	Peth 100	Tril.SG	Satisfied	Mrs.E.V. I could hear everything going on, but could not feel at all

TRILENE CASES (CONTINUED)

"Private Booked" cases in RED

No	Age	Grav.	Mat.	Preg.	LABOUR 2nd St hr.min.	Weight of child & condition	REMARKS	SEDATION 1st. St.	SEDATION 2nd St.	Patient's opinion	Remarks
65	42	4	40	Normal	20	8lbs.1 good.	Normal	Peth 200	Tril.SG	Doubtful	Mrs.W.
66	32	2	40	Normal	15	8lbs. good.	Normal	Peth 100	Tril.	Doubftul	Mrs.W. Felt as in a drea but more painful than wi 1st baby (Breech)
67	23	1	40	Normal	25	6lbs 10 good.	Normal	Nil	Tril.	Satisfied	Mrs.G.W. Vaguely remembe baby being born.
68	21	1	40	Mild Tox.	25	9lbs.9 good.	2nd.Deg.tear PPH 20 oz.	Peth 100	Tril. SG.	Satisfied	Mrs.N.W. Relaxed very well. Trilene almost superfluous
69	27	3	40	Normal	15	7lbs.9 good.	Normal	Peth 100	Tril. SG.5	Satisfied	Mrs.Y.Conscious of con- tractions but did not feel delivery.
70	31	1	41	Normal	1. 0	8lbs.11 good.	Episiot	Peth 100	Tril.	Dissatis:	Mrs.T. 'Could not get right with Trilene".
71	21	1	41	Normal	40	8lbs. good.	Normal	Peth. 100	Tril. SG.	Satisfied	Mrs.N. 'Surprised to hea my baby cry".
72	33	2	38	D.S. for prev.forceps	1.10	8lbs.5½ good.	Episiot Local	Peth.100	Tril.SG	Satisfied	Mrs.L.
73	24	1	42	Normal	15	7lbs.10 good	Episiot & Stitch with Tril.30oz.loss	Peth 100.	Tril.SG	Satisfied	Mrs.S.
74	24	2	38	Normal	15	6lbs.8 good.	1st.Degree.tear	Peth 100	Tril.SG.	Satisfied	Mrs.S. I wouldn't mind another under such conditions.

96.

TRILENE CASES HOSPITAL

'Private Booked' cases delivered by doctors in RED. S.G. signifies Siebe-Gorman apparatus.

No	Age	Grav.	Mat.	Preg.	LABOUR 2nd.St. hr. min	Weight of child & condition	Remarks	Sedation 1st St.	Sedation 2nd.St.	Patients opinion	Remarks
75	29	1	42	Normal	1 10	7lbs 9½ good	2nd Degree Tear Episiot & stitch with Trilene.	Peth200	Trilene S.G.	Doubtful	Mrs. A.P. Felt Episiotomy but not stitch
76	15	1	40	Normal	40	7lbs11¼ good	Normal	Peth150	Trilene S.G.	Stafisfied	Miss M.B.
77	27	1	38	Tox.A.R.M.	45	7lbs good	Episiotomy	Nil	Trilene S.G.	Satisfied	Mrs. E.
78	34	2	38	D-Smyth Induction for prev. forceps	25	6lbs15 good	1st degree tear	Peth100	Trilene S.G.	Satisfied	Mrs.W.B.
79	20	1	42	Normal	50	7lbs12 good	Episiot	Peth100	Trilene S.G.	Satisfied	Mrs. S.
80	28	1	39	Normal	1. 0	5lbs11 white asphyxia	Episiot Breech dely 1 arm ext. brt down with ease.	Nil	Trilene	Satisfied	Mrs.W.P. 'Did not feel anything
81	36	1	38	Normal	30	5lbs14 good	Normal	Peth100	Trilene	Satisfied	Mrs.B.
82	30	1	41	Normal D-Smyth for post-Matur.	20	6lbs 8 Anenceph S.B.	Episiot	Peth100	Trilene	Satisfied	N.R.

97.

TRILENE CASES IN HOSPITAL

Private Booked cases delivered by Doctors in Red. S.G. signifies Siebe-Gorman Apparatus.

No	Age	Grav	Mat.	Preg.	LABOUR 2nd St hr.min	Weight of child & condition	Remarks	SEDATION 1st. St.	SEDATION 2nd St	Patient's opinion	Remarks
83	34	1	39	Normal	1. 5	6lbs 7 good	Episiot	Peth200	Tril. S.G.	Satisfied	Mrs.A.H.
84	36	2	39	Normal	10	7lbs 6 good.	Normal	nil	Tril. S.G.	Doubtful	Mrs.L.B. Felt few contraction
85	32	1	41	Freehead at term	20	7lbs 5 good	T.P.	Peth100	Tril. S.G.	Doubtful	Mrs.C.T.
86	25	1	40	Normal	35	7lbs good	Retained placenta not req.manual removal PPH.30oz	Peth100	Tril. S,G.	Dissatisfied	Mrs.B."I suppose it must have helped, but didn't seem very stron to me.
87	29	1	40	Free Head R O.P. at term	1.15	6lbs4 good.	Episiot	Peth200	Tril. S.G.	Doubtful	Mrs.C. "It wasn't very strong, but it dis-tracted me"
88	29	3	40	Normal	25	7lbs10 good.	Normal	Peth100	Tril. S.G.	Satisfied	Mrs.N.M. Co-operative but no pain.
89	33	6	38	D-Smyth for Tox. Mild.Histy prev.Post-Partum fit.	5	6lbs14 good.	Normal	Nil	Tril. S.G.	Satisfied	Mrs.W. Good analgesia

98.

TRILENE CASES IN HOSPITAL

Private Booked cases delivered by Doctors in Red. S.G. signifies Siebe-Gorman Apparatus

No.	Age	Grav.	Mat.	Preg.	LABOUR 2nd St. hr.min	Weight of child & condition	Remarks	Sedation 1st St.	Sedation 2nd St.	Patient's opinion	Remarks
90	24	1	40	Normal	2 50	8lbs3½ good	Episiot. under Trilene. 20 oz. loss.	Pethl00	Tril.S.G.	Satisfied	Mrs.N
91	35	1	36	Normal	30	6lbs3¾ good	2nd Degree Tear	Pethl00	Tril.S.G.	Satisfied	Mrs.K.C.
92	20	1	41	D-Smyth for Post-Matur.	3 10	7lbs15 moulded ++	2nd Degree Tear	Peth200	Tril.S.G.	Satisfied	Mrs.D.'Marvellous Stuff'
93	21	2	36	Normal	10	5lbs.13 good	Rapid	Nil	Tril.S.G.	Satisfied	Mrs.R. 'I did not know baby's head was through
94	22	3	40	APH early cervical Erosion Normal	25	7lbs13 good	Normal	Nil	Tril.S.G.	Satisfied	Mrs.C.
95	28	4	40	Toxic Emergency	5	7lbs10 good	Rapid	Nil	Tril.S.G.	Satisfied	Mrs.S. "Where have I been".
96	24	3	40	Normal	15	7lbs1oz good	T.P.	Nil	Tril.S.G.	Satisfied	Mrs.McC Co-operation no pain felt.
97	25	1	40	Normal	35	7lbs6oz good.	Normal	Pethl00	Tril.S.G	Satisfied	Mrs.M.B.
98	25	1	39	Mild Tox.	1.30	7lbs.4 good	Episiot & stitch	Pethl00	Tril.S.G.	Satisfied	Mrs.M.
99	27	3	40	Normal	15	9lbs good.	Normal		Tril.S.G.	Dissatis:	Mrs.S.
100	22	2	40	Normal	10	7lbs15 sleepy	Normal, loss 18oz	Pethl00	Tril.S.G.	Satisfied	Mrs.O.

94.

PRIVATE 'BOOKED' CASES ATTENDED ON THE DISTRICT

Case	Age	Grav.	Mat	Distance of home & Status of husband	Preg	LABOUR	Condition and weight of child.	Episiotomy	SEDATION 1st.St.	SEDATION 2ndSt.	Patients Opinion	Remarks
1	21	1	39	7 miles Farmer	Normal	Normal	7lbs. good.	No	Nil	Tril.1 hr. 'pains only.	Satisfied	Mrs.A. Relaxed well. Easy Labour. No amnesia Co-op +++
2	24	1	37½	1½ miles Clerk	Hyperemesis	Normal	6¼lbs good.	No	Nil	Tril.1hr	Satisfied	Mrs.B. Relaxed well. Analgesia V.Satis. Easy labour. Co-op +.No clear recollec of birth.
3	25	1	39	4 miles Farmer	Normal	Normal	8lbs. good.	No	Sec.1½ gr.for sleep. Peth100	Tril. pains only.	Satisfied	Mrs.B.H. Relaxed well. 1st.Peth given too soon. Analgesia excell.Amnesia slight.Easy delivery. Co-op +++
4	21	1	38½	3 miles Transport Driver.	APH.Slight 6/12	Normal	7lbs.12 good.	Yes Local	Peth100	Tril. pains only	Dissatis:	Mrs.M.M. Relaxed well till 4/5ths dilated. Peth.helped then. Tril.insuff. at end. Hard push. Chloroform for delivery only.
5	32	4	40	2 miles Wks Man:	Normal	Normal	9lbs. good.	No	Peth 75	Tril.	Satisf:	Mrs.B.Relaxation poor. Analg.excell.Amnesia good 'Marvellous'

PRIVATE "BOOKED" CASES ATTENDED ON DISTRICT

Case	Age	Grav.	Mat.	Distance of home & status of husband.	Preg:	Labour	Condition & weight of child	Episiot-omy	SEDATION 1st.St	SEDATION 2nd St	Patient's opinion	Remarks
6	33	2	41	3 miles Clerk	Mild Tox.	Normal	8lbs. good.	No	Peth100	Tril.	Dissat.	Mrs.L.C. Relaxation non-exist ent. Diff.Hysterical patient Did not like smell of Trilen Kept asking for what she had with 1st.(N_2O + O_2), Chlorofo dely only. Co-op ±
7	25	2	40	½ mile clerk	Normal	PPH 26oz	10lbs good.	2nd.Degree tear repair-ed	Peth100	Tril.	Dissat.	Relaxation poor. Co-operatio good with T. But chloroform ether mix.given last 2-3 min made patient uncontrollable.
8	28	2	40	1½ miles Analyt. Chemist	Anaemia	Normal	7½ lbs good	No	Peth100	Tril.	Satisf.	Mrs.P. Relaxation excellent That and sedation produced a perfectly painless labour. Co-op +++
9	43	3	41	5 miles Innkeeper	Tox. Exter. Version 35 wks. Albu. in urine.	Normal	7lbs. sleepy	No	Peth100	Tril.	Doubt	Mrs.W. Relaxation poor until Peth.given, then better. Pet a great help here did not th Tril. made much diff,but hel ed co-operation.
10	34	3	40	4 miles Farmer	Had Prola-pse.	Normal	7¼lbs Good	Yes	Peth100	Tril	Doubt	Mrs.M.E.P. Relaxation useles Pushed with every pain for last hour. Trilene helped th but not strong enough. Analg sia fair. Amnesia fair.

PRIVATE 'BOOKED' CASED ATTENDED ON DISTRICT

Case	Age	Grav.	Mat.	Distance of home & status of husband.	Preg.	Labour	Condition & weight of child	Episiotomy	Sedation		Patient's opinion	Remarks
									1st. St.	2nd St.		
11	35	2 1st. forceps	38½	1 mile Soldier	Mild Tox	P.P.H.22 ozs.	7½ lbs. good.	Yes	Peth 200	Tril. 2 hrs.	Satisfied	Mrs.McK Relaxation good early, Deteriorated later. Peth a great help here as Tril. not sufficient. Excitable diff. patiemt co-op go after pethidine.
12	39	6	38	½ mile Engineer	Normal	Normal	6½ lbs. good	No	Nil	Tril.	Satisfied	Quick easy. Relax. fair. Prefers T. to going off wit chloroform completely.
13	28	3	38	½ mile grocer	normal	normal	6 lbs. good.	No	Peth 100	Tril.	Satisfied	Relaxation fair. Easy Labour. Mrs. L.
14.	36	4	39	½ mile Builder	Toxaemic with Albu. last 14 days BP. 140/90 Max.	Normal	8 lbs good.	No	Nil	Tril.	Dissati.	Mrs.W. Relaxation good with Tril. until last 3 or 4 pai C2 E3 given rapid loss of control and comsciousness.
15	36	4	40	6 miles Farmer	Normal	Normal	7lbs10	No	Nil	Tril.	Dissat:	Mrs. M.P. Relaxation good with Tril. until last few pains. Chloroform for crowning & dely. Co-operation good throughout.

In addition during the year there was one case B.B.A.

RELAXATION

POSITION

Supine, on wide couch or fairly hard bed with a small bolster under the head and shoulders, and a smaller pillow or cushion under the knees. Arms by the side, elbows half bent, hand half closed, knees slightly separated, i.e., all joints so far as possible in semi-flexion.

DIRECTIONS TO PATIENT

Relax the -

Shoulders..... by thinking of them 'opening outwards'

Arms .....by imagining them falling out of shoulder girdle, 'as though they did not belong to you'

Back .....sinking through couch on to the floor.

Legs, knees and feet.falling outwards by their own weight.

Head .....making a dent in the pillow.

Eyelids .....half closing by their own weight.

Face .....as though hanging from the cheek bones.

Jaw .....hanging loose

Give about two minutes to each group, and take them in the same order each time.

BREATHING

Let the chest wall collapse with its own weight on expiration, and pause for two seconds (or until you want a new breath) at the end of expiration. Get a feeling of general relaxation, letting all the joints give a little more with each outgoing breath. Do this six times.

Note the train of sensations in the limbs - usually heaviness followed by lightness of 'floating', faint, transient pins and needles in the hands; feeling of warmth passing up from the extremities.

A pleasant, torpid, day-dreaming state generally ensues (as in sunbathing) and any tendency to directed thinking should be deliberately diverted into a day-dream.

DURATION

Half to one hour. (The sense of the passage of time is often lost or blunted).

Sleep is not aimed at and, for most patients, muscular relaxation seems to be more refreshing. But many insomniacs can put themselves to sleep during the day by relaxation, and the ability to do so gives them confidence at night.

The patient should get up slowly at the end of relaxation and stretch. Jumping up suddenly is sometimes followed by faintness.

(From 'Revelation of Childbirth'
G.D.Read. Heinemann, London. 1946).

- - - - - - -

ANTENATAL EXERCISES

The object of these exercises is to ensure that the change of shape necessitated by the increased size of the abdomen during the latter months of pregnancy does not result in muscle weakness, bad position or lack of tone in those structures, the efficiency of which is of importance in normal childbrith.

1. BREATHING

Stand with the feet about 18" apart, the arms hanging to the side, palms to the front and slightly behind the centre of the thighs. The back must be arched and the head thrown comfortably back. A deep breath is taken, and at the same time the arms raised from the sides upwards and outwards until they are level with the shoulders. The chest is emptied of breath and the arms full again to the sides. With inspiration, raise up on the toes and with respiration sink upon the heels. Do this from nine to twelve times, according to comfort.

2. MUSCLES OF THE BACK AND ABDOMEN

Kneel on the bed, with the hands in front in the position of 'all-fours'. Raise the back up and bend the head down between the arms so that the trunk is curved upwards to its maximum extent. Then raise the head and let the back fall, slightly bending the elbows so that the concave curve of the spine is at its maximum. Do this six to nine times slowly and deliberately.

Kneel down, sit back on the heels, bend the trunk forward until the head touches the knees, with the forearms on the ground. Breathe out whilst going down to this position, then raise up, drawing the hands towards the knees until the hands rest upon the thighs just above the knees. Breathe in whilst raising the body. The knees should be at least 15 inches apart so that the weight of the body may be felt pressing down upon the pelvic girdle.

3. MUSCLES OF THE ABDOMEN & PELVIS

Lie on the back with the hands at the sides and the head supported by a pillow. Raise each leg alternately from the floor as high as is comfortable; if it can be done easily, bring it up to a right angle to the ground. Drop the leg slowly to original position, then do the same with the other leg. Raise each leg in this manner six to nine times.

4. STRETCHING THE PELVIS.

Lie on the back, bring the heels as near to the buttocks as possible with the feet resting on the floor. Allow the knees to fall widely apart, then bring them together again. It is important that the muscles of the inner side of the thigh should be completely relaxed so that there is no resistance to the falling apart of the legs.

After these exercises are completed lie on the bed at full length, and completely relax all muscles of the body, face and limbs. Take three or four deep breaths and try to feel that you are sinking through the bed. Lie like this for half an hour.

The exercises should be done in the late morning or last thing at night. They should not be commenced within one hour of a meal.

(From "Revelation of Childbirth"
G.D.Read,
Heinemann, London, 1946).

- - - - -

DURATION OF SECOND STAGE